SAN FRANCISCO PUBLIC LIBRARY
3 1223 06111 9344

5/S

San Francisco Public Library

Government Information Center
San Francisco Public Library
100 Larkin Street, 5th Floor
San Francisco, CA 94102

REFERENCE BOOK

Not to be taken from the Library

APR 17 2002

San Francisco

Congestion Management Program 1997

DOCUMENTS DEPT.

DEC 2 0 2001

SAN FRANCISCO
PUBLIC LIBRARY

January 20, 1998

prepared by the San Francisco County Transportation Authority

3 1223 06111 9344

The preparation of this report has been financed through a grant from the U.S. Department of Transportation and the Federal Highway Administration under the Intermodal Surface Transportation Act of 1991.

Content of this report does not necessarily reflect the official views or policy of the U.S. Department of Transportation.

For questions about this report please contact José Luis Moscovich, Director of Plans & Programs at (415) 557-6857, or write to the San Francisco County Transportation Authority, 100 Van Ness Ave., 25th Floor San Francisco, CA 94102

4 47610 SFPL: ECONO JRS
36 SFPL 03/15/02 117

THIS PAGE
INTENTIONALLY LEFT BLANK

Table of Contents

Chapter 1 - Background and Program Overview

1. Background 1
2. Congestion Management in San Francisco 3
3. Program Overview 6

Chapter 2 - Congestion Management Agency

1. Legislative Requirements 9
2. Legislative Intent and Application to San Francisco 9
3. The San Francisco County Transportation Authority 9

Chapter 3 - CMP - Designated Roadway Network

1. Legislative Requirements 13
2. Legislative Intent and Application to San Francisco 13
3. San Francisco CMP Roadways 13
4. Work Program Items - Key Milestones 18

Chapter 4 - Roadway Level of Service Monitoring

1. Legislative Requirements 19
2. Legislative Intent and Application to San Francisco 19
3. Technical Approach 20
4. Monitoring Results 22
5. Future Monitoring Approach 26
6. Caltrans' Role 26
7. Work Program Items - Key Milestones 26

Chapter 5 - Multimodal Performance Element

1. Legislative Requirements 27
2. Legislative Intent and Application to San Francisco 27
3. Multimodal Performance and Mobility 27
4. Uses of Multimodal Performance Measures 28
5. Methodology for Performance Evaluation 29
6. Work Program Items - Key Milestones 37

Chapter 6 - Travel Demand Management Element

1. Legislative Requirements 39
2. Legislative Intent and Application to San Francisco 39
3. City Policy Framework 40
4. Housing and Employment Balance 47
5. Relationship of Travel Demand Management Activities to Air Quality Improvement Efforts 47
6. Work Program Items - Key Milestones 49

Chapter 7 - Land Use Impacts Analysis Program

1. Legislative Requirements..... 51
2. Legislative Intent and Application to San Francisco 51
3. Land Use as a Determinant of Transportation Demand..... 52
4. Institutional Framework for a CMP Land Use Analysis Program..... 53
5. Work Program Items – Key Milestones..... 55

Chapter 8 - Capital Improvement Program

1. Legislative Requirements..... 57
2. Legislative Intent and Application to San Francisco 57
3. Transportation Investment and System Performance..... 58
4. CIP Components 59
5. Relationship to Other Plans and Programming Documents..... 60
6. The Authority's Capital Priorities Programming Process 62
7. CIP Review and Amendment Procedures 67
8. Program Overview 73

Chapter 9 - Deficiency Plans

1. Legislative Requirements..... 77
2. Legislative Intent and Application to San Francisco 78
3. Overview..... 80
4. Deficiency Planning Process 85
5. Special Issues 92
6. Work Program Items - Key Milestones 94

Chapter 10 - Travel Demand Model and Uniform Database

1. Legislative Requirements..... 95
2. Legislative Intent and Application to San Francisco..... 95
3. Technical Approach..... 95
4. Work Program Items - Key Milestones..... 97

APPENDICES

Appendix I	~~Regional (MTC)~~ Guidance ~~Regarding the Development of~~ Congestion Management Programs for Consistency with the Regional Transportation Plan.
Appendix II	California Government Codes Referencing Congestion Management Programs
	CMP Legislation As Amended in Assembly Bills 1963 & 2419
	Senate Bill 45 - STIP Reform Bill (Kopp)
Appendix III	Congestion Management Program Roadway Network Segmentation
Appendix IV	Results of Level of Service Monitoring: 1997 Cycle Performance Monitoring
Appendix V	Local Land Use Impacts Analysis Guidelines
Appendix VI	Downtown Transit Impact Development Fee Ordinance
Appendix VII	San Francisco Trip Reduction Efforts: Relationship to Regi Transportation Control Measures
Appendix VIII	Active Project Delivery Schedule and CIP Project Cost/Fun Matrices
Appendix IX	Transportation Analysis Database - Detailed Description
Appendix X	Glossary of CMP Related Terms

VI - Is there a map of where this is in effect (Planning)

VII - Call 510.464.7700 MTC Valene Cheppar

THIS PAGE
INTENTIONALLY LEFT BLANK

CHAPTER 1

BACKGROUND AND PROGRAM OVERVIEW

Key Topics:

- **Background**
- **Congestion Management in San Francisco**
- **Program Overview**

1. Background

Purpose of the Document

The 1997 San Francisco Congestion Management Program document is designed to serve the following purposes:

i. Comply with state law requiring biennial adoption of a Congestion Management Program (CMP) and submittal to the Metropolitan Transportation Commission for a finding of conformance. A conformance finding ensures the City's continued eligibility for additional state fuel tax revenues authorized by CMP legislation, as well as state and federal funding eligibility for key transportation projects.

ii. Describe the San Francisco CMP and serve as the main and most current reference and guidance document for San Francisco agencies involved in activities related to congestion management.

iii. Serve as the basis for the congestion management work program and schedule to be followed during fiscal years 1997-8 and 1998-9 to develop specific technical or policy guidance in areas of the Program that require it.

iv. Establish and describe interim policies, procedures, or methods to be used until final guidance is available as described in iii) above.

Document Organization and Approach

The document is organized in chapters following MTC guidance ~~of December 26, 1990 and March 22, 1995, and MTC~~'s "Guidance for Consistency of Congestion Management Programs with the Regional Transportation Plan," per MTC Resolution 3000 of ~~6/25/97~~. There is a separate chapter devoted to each of the elements required by the CMP legislation. For the complete text of MTC's guidance please refer to Appendix I. The text of the 1997 San Francisco CMP was used as a general guide, and was retained where still current.

For chapters where technical issues require further development there is an introductory section describing the issues yet to be resolved, followed by a section detailing interim procedures. A final section lists work program items and describes the proposed approach for developing final methods or further guidance. Because the CMP is a biennial document, final procedures developed during fiscal years 1997-8 and 1998-9 will be adopted by the Authority Board as amendments to expand or supersede the appropriate sections of the 1997 San Francisco CMP, and will go into effect after Board adoption.

Development of this CMP document update was primarily the responsibility of the Authority. The information in Chapter 4: Level of Service Monitoring is extracted from the report prepared by The Wilson Engineering Company, which conducted the monitoring of the CMP network. That report is available from the Authority as a separate publication. The Planning Department contributed to the chapter on Trip Reduction and Travel Demand. Further review and comment was provided by other City departments, the Authority's Citizens Advisory Committee, the Metropolitan Transportation Commission, transit operators, the Bay Area Air Quality Management District, and Caltrans.

Origins and Intent of the CMP Legislation

The requirements for a Congestion Management Program were established in 1989 as part of a bi-partisan state legislative package, known as the Katz-Kopp-Baker-Campbell Transportation Blueprint for the Twenty-First Century (AB 471). The actual requirements for CMPs became effective when voters approved Proposition 111 on June 5, 1990. Changes and modifications to clarify various aspects of CMP law were introduced by AB 1963 in September 1994 and AB 2419 in July 1996. For the complete text of the CMP legislation, see Appendix II.

The state legislation not only provides for increases in transportation funding, but also makes significant changes in the requirements for planning and programming of transportation projects to be funded from these sources of revenue. The goal of the legislation is to tie transportation funding decisions to measurable traffic congestion relief, local land use decisions and their impact on the transportation system, and implementation of transportation control measures to meet air quality goals.

The CMP requirements are the legislature's response to the growing traffic congestion phenomenon experienced by all urbanized areas in California. It is widely perceived that traffic congestion is outpacing the traditional transportation planning process in its ability to provide adequate solutions. In San Francisco, with its high-intensity land uses and extensive transit network, this traffic congestion phenomenon manifests itself differently, posing challenges to the interpretation of the CMP mandate in the city, but for the majority of the state's highly suburbanized metropolitan areas it is a reality, and it has its roots in the following four facts:

a. The currently prevalent low-density suburban growth pattern throughout the state's metropolitan areas does not lend itself easily to cost-effective transit service and is therefore highly dependent on the automobile and on the freeway system; (in short: *transit does not work well in the suburbs.*)

b. Because of the political volatility of pricing strategies (e.g., tolls, paid parking at work sites) and the limited success of ridesharing strategies (i.e., carpooling and vanpooling) in sprawled suburbs, most automobiles still carry just one person, regardless of trip purpose or time of day, so that any new roadway facilities that are built are, by definition, inefficient: even when full of *cars* they carry only a fraction of the number of *people* they could accommodate; (in short: *freeways full of solo drivers shortchange the carrying capacity of the investment.*)

c. These high-cost facilities, which are designed for the automobile but do not maximize the number of *people* carried, result in a high cost per person transported; (in short:

building freeways to address transportation demand is not cost-effective)

d. Because of the scarcity of land for transportation facilities, rising construction costs, and environmental and air quality constraints, ever growing levels of capital investment are needed in order to build roadways. This, combined with a deteriorating economy and continuing erosion of transportation funding, results in fewer and fewer new miles of roadway facilities being built every year to address a growing demand for transportation; (in short: *it's hard to keep up with transportation demand by building freeways, and we can't afford them either)*

For most of suburbanized California the inability to keep up with transportation demand lends credibility to the prospect of land development coming to a halt because of increasing traffic congestion and deteriorating accessibility. Consequently, the CMP legislation aims at extracting more productivity out of the existing transportation infrastructure while encouraging more efficient use of scarce new dollars for transportation investment, with the intended result of fending off congestion, improving air quality, and ultimately allowing continued land development where feasible. In order to achieve this, the CMP law mandates a coordinated strategy based on five main concepts:

a. Require more coordination between federal, state, regional and local agencies involved in the planning, programming, and delivery of transportation projects, programs, and services;

b. Favor transportation investments that provide measurable and quick congestion relief;

c. Create a definite link between local land use decisions and their effect on the transportation system

d. Favor transportation solutions that are less dependent on the single-occupant automobile, and improve air quality;

e. Place emphasis on local coordination and responsibility by requiring the designation of a Congestion Management Agency in each urban county in the state.

2. Congestion Management In San Francisco

Applicability of the Concept

The main impetus for the CMP legislation derives from worsening *suburban* transportation conditions, caused by land use patterns that perpetuate over-reliance on the private automobile. Although land redevelopment opportunities exist, San Francisco is essentially a built out city, with an extensive transit network and long standing policies and programs to encourage a balance and truly multimodal transportation system. It is therefore necessary to, within the constraints of State law, reinterpret congestion management goals and requirements so that they work for San Francisco. The City's "transit first" policy, for instance, presents a challenge to CMP implementation: in San Francisco we tolerate a certain level of traffic congestion in order to encourage transit ridership. The San Francisco General Plan specifically discourages roadway capacity increases, stating that:

> "The existing vehicular capacity of the bridges, highways and freeways entering the city should not be increased and should be reduced where possible." (SF General Plan, Transportation Element, Objective 3, Policy 1).

Congestion management concepts may be at odds with this policy approach if we interpret congestion management as requiring improvements to the throughput of *cars* in the roadway network. However, if we rethink congestion management as maximizing *people* throughput, that is, if we re-interpret congestion management requirements as an opportunity to improve overall mobility in the city, then we have opportunities to capitalize on the city's significant supply of transit services, and on its relatively pedestrian-friendly environment. San Francisco can show good performance in achieving congestion management goals if the measures used in determining performance are relevant to the city's transportation and land use realities. Congestion Management Program activities for the next two fiscal years will include the identification of issues such as this one, which can be pursued as part of the Authority's agenda for legislative change.

The City's Congestion Management Track Record

San Francisco has had considerable success in managing travel demand, especially with respect to control of automobile access to the downtown area during peak commute times. Many of the transportation demand management and land use regulation measures described in Chapters 6 and 7 of this document have been in place over the last twenty years and have allowed major growth in downtown trip-making without significant deterioration in operating conditions (or traffic levels of service) for downtown streets.

It is clear that this success is the result of the *combined* application of several major policies, in particular:

- parking pricing and supply policies which discourage driving into downtown;
- transit service investment policies to provide and maintain local travel options that are *truly competitive* with the private automobile; and
- land development policies that gave transportation system investments a chance to keep pace with the growth in trip-making.

In addition to these policies, there were other factors that were essential to the City's ability to absorb the extraordinary levels of employment growth experienced between 1970 and 1985. Such factors include:

- *the City's historic record of investment in local public transit* - The existence of high levels of transit service and coverage within the city provided a credible option to driving, and made politically viable the application of parking pricing policies, and development impact mitigation fees;
- *the BART system and the demographics of downtown employment* - A large portion of employment growth in this period was absorbed by suburban residents. The opening of BART in 1973 constituted a major expansion to transit capacity with two key features: a) excellent regional access to stations within walking distance of most downtown employment locations, and b) no financial burden to the city for providing adequate transit coverage at the residential (suburban) end of the BART trip; and

- *the City's investment in its street system* - It is seldom recognized that San Francisco's dense grid of streets and arterials is a major transportation asset, providing multiple travel route options, keeping local trips from clogging the freeway system (as is so often the case in the suburbs) and enhancing the system's ability to recover quickly when congestion problems occur.

The City's winning strategy was a truly multi-modal transportation strategy, which allowed each travel market to be served by the transportation modes best suited for it.

Future Strategies

The above discussion of the City's track record highlights the importance of maintaining travel *options* as an essential strategy not just to prevent a worsening of congestion but also to improve mobility.

Understanding demographic trends is important, as well, in charting future action. Reflecting changes in the economic structure of the region, as well as national trends, the development boom that characterized the growth of the City's downtown area in the 1970's and 1980's has been replaced by modest employment growth. San Francisco residents are out-commuting in increasing numbers to take advantage of work opportunities in other Bay Area counties: today the number of San Francisco residents traveling daily to work in Santa Clara County is larger than the number of Santa Clara County residents employed in San Francisco. Commute times by transit for San Francisco residents are increasing, and so is automobile ownership in the city. In fact about half of all drive-alone work trips into downtown come from within San Francisco. These are disturbing trends at a time when the fiscal crisis at the State and local governments is resulting in curtailment of funding for transit operating expenses. As transit faces these problems, enriching the City's inventory of available transportation options will be a key strategy for congestion management in San Francisco.

Maintaining transit service levels is essential to ensure that transit remains a viable option to the private automobile, but there are significant travel markets within the City which are only marginally suited for transit service and cannot be captured by transit without major operating expense. Other trips simply cannot be attracted to transit. Ridesharing (carpooling) strategies and non-traditional transit options (zonal express bus service, demand responsive, etc.) may need to be explored as alternatives to drive-alone in some of these cases.

In addition to ensuring compliance with the State's congestion management requirements, improvement of congestion conditions on city streets is necessary to avoid further deterioration of transit travel times. Therefore, San Francisco's congestion management activities will also need to focus on key improvements to congested roadway facilities. Whereas the program's primary emphasis on transit reinvestment, with new service proposed in redeveloping areas, is not in question, street and roadway reinvestment will not be neglected. Particular attention will be paid to projects that improve the operating efficiency of the existing system, such as interconnection of traffic signals to improve vehicular traffic flow, or signal pre-emption to improve the operating speed and reliability of transit vehicles. These projects are necessary not only to ensure that the current level of congestion does not worsen, but also to improve overall mobility, and help transit re-gain operating speed and retain its market share.

Congestion management activities during the next two fiscal years will include continued development of Strategic Analysis Reports (SARs). These are policy-level thought pieces aimed at facilitating policy-making relative to congestion management by describing systemic congestion, and analyzing likely transportation outcomes taking into account transportation investment decisions, and system performance outcomes. SARs are action-oriented documents used, for instance, to systematically identify potential travel markets, such as those described above, matching them with transportation options most likely to effectively serve them, and estimating their potential impact in alleviating congestion levels. Chapter 2 discusses the role of SARs in fostering early coordination by City Departments so that certain congestion management-related actions may be evaluated before they are implemented. Chapter 9 addresses the proposed use of SARs in the Deficiency Plan process. SARs could be developed on topics as wide-ranging as the congestion reduction potential of parking supply and pricing policies; alternative ways to measure congestion relief and mobility benefits for city residents, and the potential congestion management implications of implementation of the Americans with Disabilities Act. The number of SARs to be developed over the next two fiscal years will depend on the need for information to support policy-making, and on the level of effort required by the complexity of the topics chosen.

Further work to improve the measurement of performance of the multimodal system, further organize the deficiency planning process, and analyze CIP changes, are discussed in Chapters 5, 9, and 8 respectively.

3 Program Overview

A. Mandated Program Components

The overall strategy embodied in the CMP legislation translates into the following statutory requirements, to be met by all urban counties in the state:

1. Development and adoption of the initial CMP and biennial updates. The CMP document must contain the following elements, which are addressed at length in the remaining chapters of this report:

   - A designated CMP roadway network
   - Traffic level of service (LOS) standards and a methodology for monitoring LOS on the designated CMP roadway network
   - Transit service standards
   - A multimodal performance element
   - A land use impact analysis methodology
   - A seven-year multimodal capital improvement program

2. Development of a common database and method for analysis of impacts of local land use decisions on the CMP network.

3. Designation of a Congestion Management Agency for the county.

In 1996 the Bowler bill (AB 2419) incorporated a provision establishing that CMP provisions would not apply in a county in which a majority of local governments, collectively comprised of the city councils and the county board of supervisors, which in total also represent a majority of the population in the county, each adopt a resolution electing to be exempt.

B. Changes to Transportation Fund Programming

The CMP legislation included the creation of new funding sources, as well as changes to existing fund programming mechanisms, tied to implementation of CMP requirements. The Authority at the local level and the MTC at the regional level have been empowered to make CMP conformance determinations affecting funding eligibility.

1. State Fuel Tax Increment: The CMP legislation established a 9 cent per gallon increase in the state's fuel tax. In order to receive these revenues, urban counties must annually be found in conformance with CMP requirements as described in A above, particularly the monitoring and reporting on congestion levels in the transportation network, and implementation of required CMP actions designed to avoid a deterioration of circulation conditions on the CMP network. In addition, the CMP document itself must be updated every two years.

2. Flexible congestion relief and urban and commuter rail funds: These funds are programmed through the regional transportation improvement program (RTIP), which is developed and adopted by MTC. In order to be considered for funding through the RTIP, transportation projects must be first included in the Capital Improvement Program of the CMP.

3. Traffic system management funds: Projects that are included in the capital improvement program of the approved CMP receive first priority for Traffic System Management funds, programmed annually by Caltrans.

4. Federal Surface Transportation Program (STP) and Congestion Management and Air Quality (CMAQ) Program Funds: In 1992, the California legislature passed SB 1435, which reconciled the CMP programming process with the new Federal Intermodal Surface Transportation and Efficiency Act (ISTEA). As a result, projects seeking STP or CMAQ funds must first be prioritized by each Congestion Management Agency as part of the development of their biennial Capital Improvement Program for the CMP.

C. Relationship to Ongoing Planning and Programming Efforts

Congestion management programs are a component of a larger set of ongoing transportation planning and programming efforts at the local and regional levels. The following documents are closely tied to the development and implementation of San Francisco's CMP:

1. Regional Transportation Plan (RTP): The CMP is instrumental in implementing the local portion of the regional transportation plan and must be consistent with it. MTC determines consistency among CMPs in the region. MTC makes these determinations as a part of the conformance finding process for CMPs.

2. Regional Transportation Improvement Program (RTIP): A seven-year transportation capital improvements program must be included in the CMP. For certain projects to be included in the RTIP, they must be included in the

capital improvement program of the CMP. The CMPs are therefore a main source from which the RTIP's program of projects is derived.

3. City of San Francisco General Plan: According to the City Charter (section 3.524), the General Plan is a comprehensive, long-term, general plan for the improvement and future development of the city and county. The General Plan includes maps, plans, charts, exhibits, and descriptive, interpretive, and analytical matter, based on physical, social, economic, and financial data, which together present a broad and general guide and pattern constituting the recommendations of the planning commission for the coordinated and harmonious development, in accordance with present and future needs, of the city and county. The General Plan also provides general information on topics such as transportation demand management measures that are addressed as part of the CMP. Chapter 8 addresses the Planning Department's role in making consistency findings for the CMP's Capital Improvement Program.

   While the General Plan provides a general policy framework, CMP actions and policies may ultimately have an effect on the policies contained in the General Plan; however, State law does not require that the CMP be incorporated into the General Plan.

4. Air Quality Attainment Plans: MTC's Regional Transportation Plan is required by federal law to conform to the State Implementation Plan for improvement of air quality. Since the CMP must be found consistent with the Regional Transportation Plan, the CMP must therefore also conform to the provisions of the State Implementation Plan. In addition, the San Francisco CMP documents implementation of transportation control measures (TCMs) included in the 1994 Clean Air Plan adopted by the Bay Area Air Quality Management District pursuant to State requirements.

D. Coordination and Public Input

The 1997 San Francisco CMP was developed incorporating input from City departments, transit operators, MTC, Caltrans District 4, and the Bay Area Air Quality Management District. The Authority's Citizens Advisory Committee also provided review and comments. A public hearing on the Draft 1997 San Francisco is scheduled for January 12, 1998

CHAPTER 2

CONGESTION MANAGEMENT AGENCY

Key Topics:

- Legislative Requirements
- Legislative Intent and Application to San Francisco
- The San Francisco County Transportation Authority

1. Legislative Requirements

California Government Code section 65089 (a), as amended, states "A congestion management program shall be developed, adopted, and updated biennially, consistent with the schedule for adopting and updating the regional transportation improvement program, for every county that includes an urbanized area, and shall include every city and the county. The program shall be adopted at a noticed public hearing of the agency. The program shall be developed in consultation with, and with the cooperation of, the transportation planning agency, regional transportation providers, local governments, the [California] department [of Transportation], and the air pollution control district or the air quality management district, either by the county transportation commission, or by another public agency, as designated by resolutions adopted by the county board of supervisors and the city councils of a majority of the cities representing a majority of the population in the incorporated area of the county." For the complete text of the CMP statutes see Appendix II.

2. Legislative Intent and Application to San Francisco

One of the main thrusts of the CMP legislation is to foster coordination of local land use and transportation investment decisions at the county or subregional level. In order to ensure local involvement in this process, which turns more complex when the number of local jurisdictions involved increases, the CMP law vests significant authority and responsibility on the Congestion Management Agencies (CMAs). For example, in order to receive state and federal funds, transportation projects in an urban county must now be recommended by that county's CMA as part of its Congestion Management Program. CMAs therefore act as a policy forum and technical resource to guide and help resolve transportation problems within counties when those problems have implications across city boundaries. San Francisco's distinct status as a city and county dictates a somewhat different role for the CMA in this regard, with the focus of involvement shifting to address problems across county lines (such as the effects of regional commute patterns into San Francisco), as well as issues of coordination of city department activities affecting congestion management, such as trip reduction program implementation, or transit service improvements.

3. The San Francisco County Transportation Authority

a. Designation and Composition

On November 6, 1990, the Board of Supervisors designated the San Francisco County Transportation Authority (Authority) as the CMA for the County. The Authority Board of Directors consists of the eleven members of the San Francisco Board

Add CWTP

of Supervisors, acting as Commissioners.

b. Roles and Responsibilities

The Authority is a special-purpose government agency, created on November 7, 1989, when San Francisco voters passed Proposition B. Proposition B mandated a 1/2 cent increase in the local sales tax for a period of 20 years, to fund San Francisco's transportation projects and services. The Authority is responsible for the administration and strategic prioritization and programming of the revenues generated by Proposition B. Beyond their own purchasing power, these revenues also allow the City to leverage large amounts of State and Federal funds for transportation investments in San Francisco.

In its capacity as the CMA for San Francisco, the Authority has primary responsibilities in the following areas:

- Development and adoption of the biennial CMP document and related implementation guidance,
- Monitoring of City agencies' compliance with CMP requirements,
- Programming of various Federal and State transportation funds,
- Review and concurrence in the programming of all transportation funds for San Francisco, and
- Policy input into the regional transportation planning and programming process.

The Authority's dual responsibilities for strategic programming of Proposition B funds through the ongoing Strategic Plan process and for prioritization and programming of State and Federal funds through the CMP process, represent a major opportunity for the City to achieve a high degree of coordination in its transportation planning decisions, and to optimize the City's investments in transportation projects and services. The leveraging of State and Federal funds through strategic use of Proposition B monies for the required local match is a good example of how effective this process can be.

In addition, acting as the CMA, the Authority plays a key role in evaluating and providing guidance on major local transportation projects and policies which may affect compliance with congestion management requirements or attainment of CMP standards.

c. Implications of the Board's Multiple Roles

As described above, the San Francisco Board of Supervisors also serves as the Authority's Board, and as the CMA Board. These multiple roles require careful balancing of the Board's responsibilities. Policy decisions made by the Board of Supervisors may have negative congestion management impacts and place the Board, as CMA, in a position to find the City in non-conformance with the CMP. This may in turn generate difficult Proposition B funding choices for the Authority Board.

In order to minimize the potential for conflict, the Authority cannot limit its role to just monitoring CMP conformance after the fact, and must instead take a proactive role to serve as a resource in analyzing the potential congestion management implications of transportation-related actions, projects or policies proposed for the City. In order to fulfill this responsibility, the Authority regularly participates in and comments on studies and discussions of key San Francisco transportation issues, such as the Transbay Bay Terminal, the Central Freeway replacement, the Embarcadero Roadway, and the Caltrain Downtown Extension. Such an approach allows the Board to better shape policy outcomes by anticipating potential problems as part of its decision-making process at a time when policy options may still be available, instead of having to react when congestion impacts reach crisis proportions and require hasty funding decisions.

d. Relationship to City Agencies

State law mandates that the Authority, acting as Congestion Management Agency (CMA), must biennially determine if the City is in conformance with the adopted Congestion Management Program. A finding of non-conformance has potentially significant consequences for transportation funding in the City. Also according to state law, it is the City's responsibility to ensure that transportation projects, programs, and services are put in place, through its implementing departments, to maintain conformance with the CMP.

In fulfilling its CMA mandate, the Authority must function as an independent agency to be able to objectively and credibly evaluate CMP conformance. This dictates a special relationship with City departments involved in transportation-related actions which must be assessed at least biennially relative to their congestion management impacts. On the other hand, because of the Board's multiple roles, as described in the previous section, the Authority's approach is to act as a resource, maximizing coordination with the City's departments responsible for planning and implementation of transportation actions, so that such actions may be evaluated for congestion management impacts before they are put in place. The Authority's Strategic Analysis Reports (SARs) are a key component of that coordination function, which involves early identification of potential congestion management problems and opportunities, fostering continued communication with implementing departments, and providing system-level evaluation of proposed actions where appropriate.

e. Relationship to Regional Planning/Programming Agencies

As the Congestion Management Agency for San Francisco, the Authority plays a key liaison role with the Metropolitan Transportation Commission (MTC), the Bay Area's regional transportation planning agency, and with the Bay Area Air Quality Management District (BAAQMD), the agency responsible for implementation and monitoring of the region's Clean Air Plan. The Authority serves as the focal point for local input into MTC's Regional Transportation Plan (RTP), which establishes the overall vision for long-

range transportation development and funding in the region, and the Regional Transportation Improvements Program (RTIP). Through its membership in the Bay Area Partnership, the Authority plays a key role in shaping the evolution of planning and programming processes affecting San Francisco's ability to capture transportation investments and preserve its economic vitality. Moreover, through its leadership in this forum the Authority is in a position to influence the debate over the vision and goals for transportation planning in the region, bringing to bear San Francisco's special perspective on multi-modalism and mobility.

CHAPTER 3

CMP-DESIGNATED ROADWAY NETWORK

Key Topics:

- Legislative Requirements
- Legislative Intent and Application to San Francisco
- San Francisco CMP Roadways
- Work Program Items - Key Milestones

1. Legislative Requirements

California Government Code Section 65089(b)(1)(A) requires that the designated roadway system include at least all state highways and principal arterials. No highway or roadway designated as part of the system shall be removed from the system. No clarification is provided in the statutes as to the definition of "principal arterial."

The statutes also refer to regional transportation systems as part of the required land use impacts analysis program, California Government Code Section 65089(b)(4). In 1991, the Bay Area's Congestion Management Agencies (CMAs) designated Congestion Management Program (CMP) networks in coordination with MTC's development of the Metropolitan Transportation System (MTS). The MTS network, which includes both highways and transit services, was subsequently designated as the Congestion Management System, required by the federal Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991. The Metropolitan Transportation Commission contracted with the congestion management agencies in the Bay Area to help develop the MTS and to use the CMPs to link land use decisions to the MTS. The 1997 CMP therefore makes a distinction between the CMP network used for monitoring conformance with the level of service (LOS) standards, and the MTS, used for the CMP's land use impacts analysis program (see Chapter 7).

2. Legislative Intent and Application to San Francisco

CMP legislation requires the designation of a network of roadways to allow the systematic monitoring of performance in relation to established LOS. The network is also the basis of analysis for estimating the transportation impacts of future actions, be they transportation projects proposed as part of the CMP's Capital Improvement Program (CIP), or land development decisions affecting transportation and air quality conditions in the city. For a discussion of the establishment and monitoring of levels of service on the CMP-designated roadway network see Chapter 4.

3. San Francisco CMP Roadways

CMP legislation requires that all state highways (including freeways) and principal arterials be included in the CMP network. Designation of facilities as part of this network must strike a balance between the cost of biennial monitoring of the network according to mandated methods (see Chapter 4), and the usefulness of the network to track the transportation impacts of land development decisions, as well as to assess the congestion management implications of proposed transportation actions. A network containing numerous local thoroughfares may permit more definitive conclusions about the projected congestion impacts of a specific

development project than a network that only includes the freeways, particularly in San Francisco, where most urban traffic occurs on city arterials. The next sections document the network selection criteria and process used in the initial San Francisco CMP in 1991, and describes the current network.

a. Selection Criteria

Consistent with State requirements, the San Francisco CMP roadway network includes all freeways and state highways, as well as principal arterials. The statutes do not provide a definition of "principal arterials" that must be included in the network. San Francisco has defined these as the Major Arterials designated in the Transportation Element of the City's General Plan. Major Arterials are defined as follows:

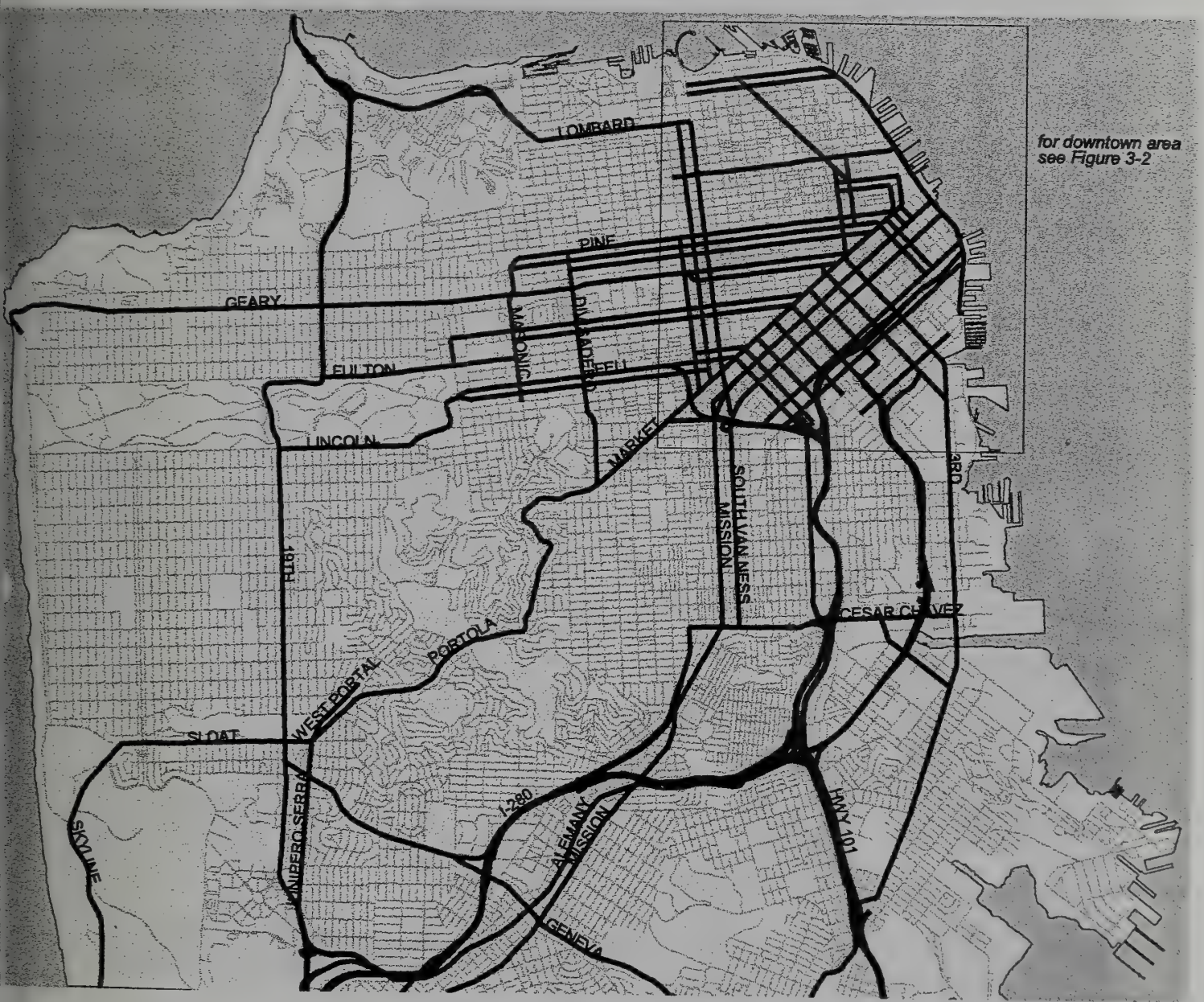
> *"cross-town thoroughfares whose primary function is to link districts within the city and to distribute traffic from and to the freeways; these are routes generally of citywide significance; of varying capacity depending on the travel demand for the specific direction and adjacent land uses."*

Several additional arterials - Market Street, Mission Street, Sutter Street, and West Portal - have also been included in the CMP roadway network. These streets experience serious conflicts between auto traffic and high volumes of transit service, and may be susceptible to congestion management techniques such as signal pre-emption at key intersections, to reduce delays to transit vehicles.

b. Current Network

Figure 3-1 depicts the complete CMP roadway network for San Francisco, which comprises 134 miles of roadway facilities. Figure 3-2 shows a detail for the downtown area.

Figure 3-1
San Francisco Congestion Management Program
Roadway Network



urce: SFCTA Transpotation Analysis Database
semap: San Francisco Department of Public Works

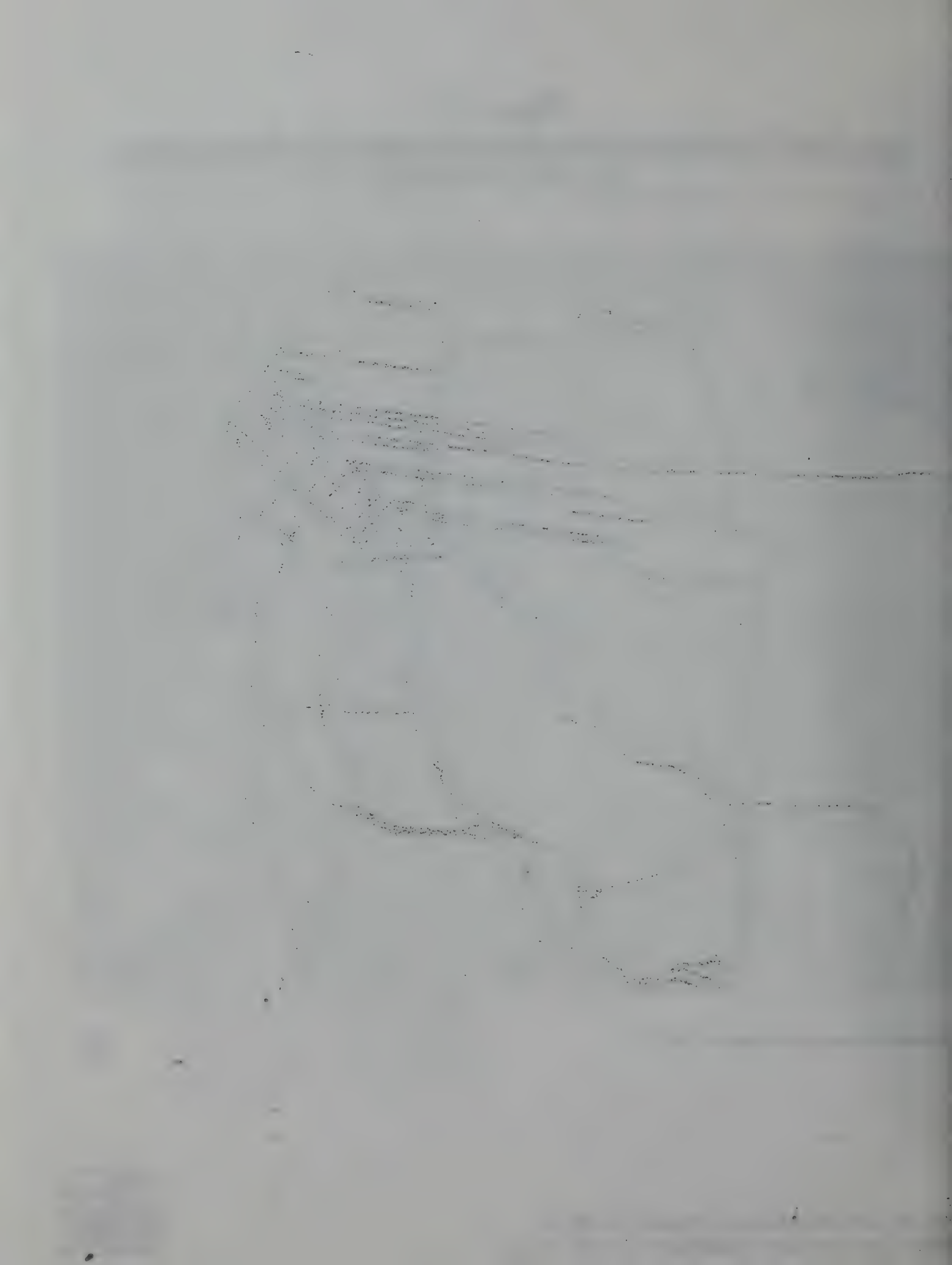
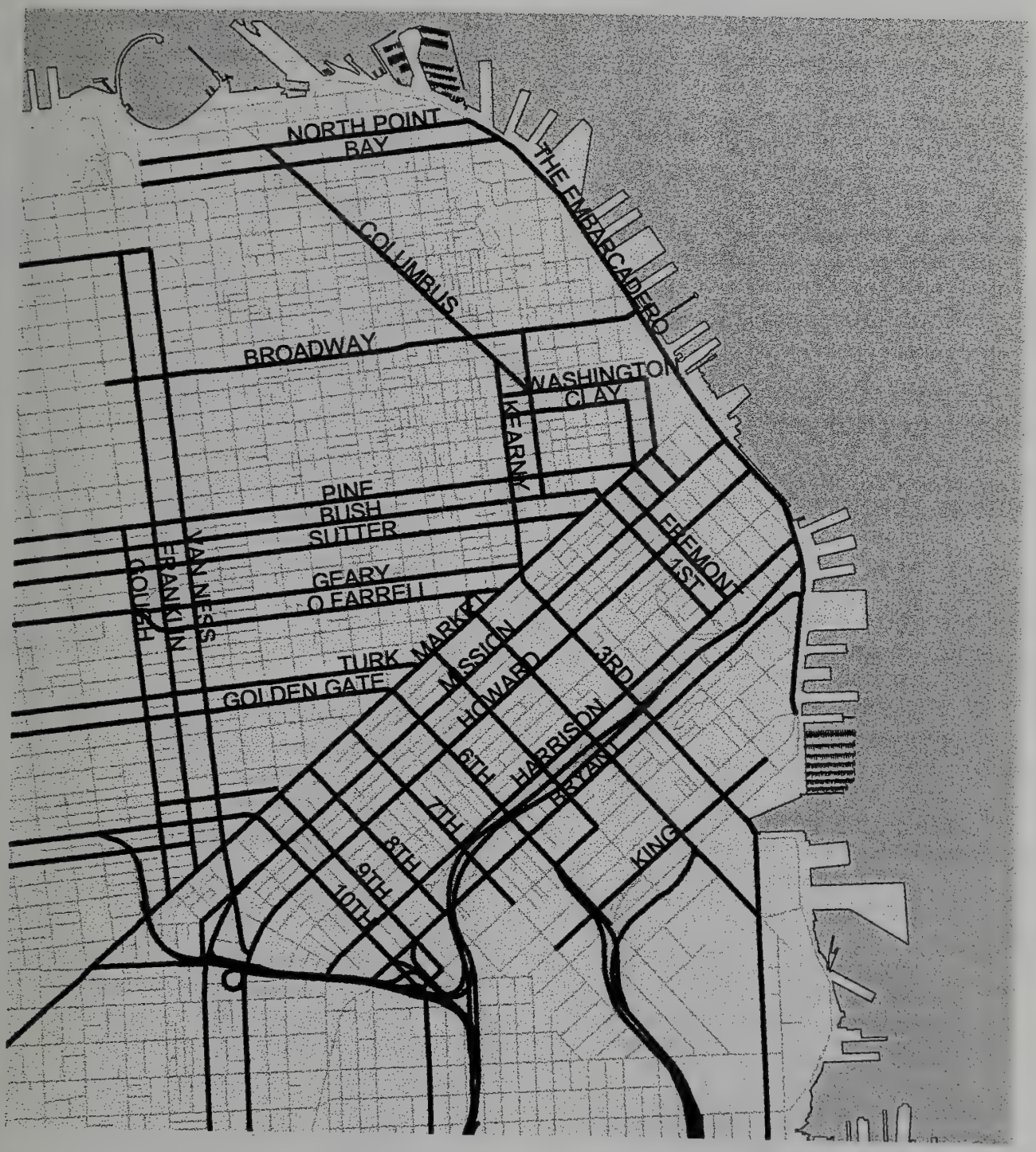
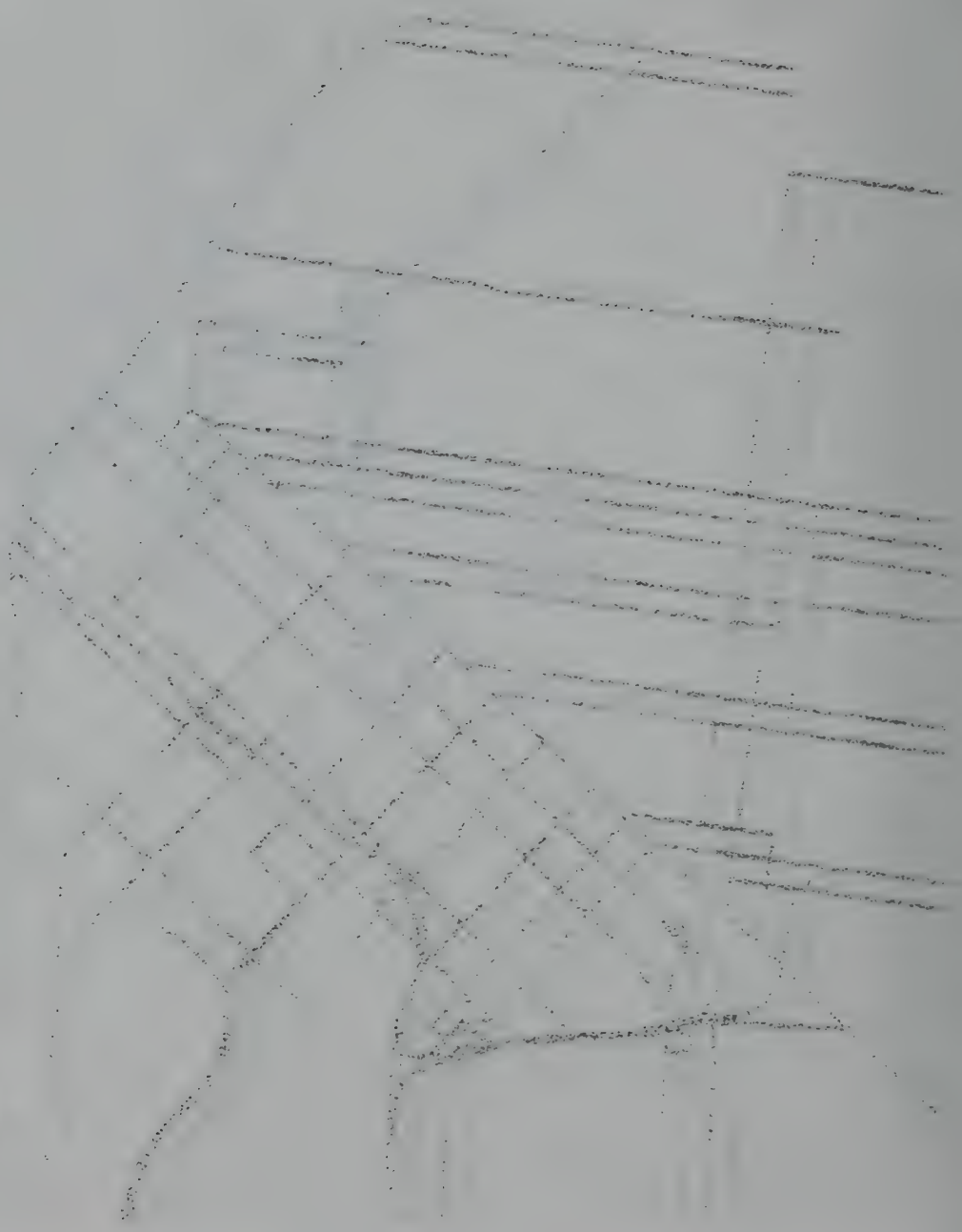


Figure 3-2
San Francisco Congestion Management Program
Roadway Network

Downtown Area Detail



rce: SFCTA Transportation Analysis Database
emap: San Francisco Department of Public Works



Freeways and State Highways

San Francisco's CMP roadway network includes 17 miles of freeways in the city, on Interstate 80, Interstate 280, and US Route 101. A total of 15 miles of State routes designated along city streets are also part of the CMP roadway network, as follows:

- US Route 101 - Richardson Avenue, Lombard Street west of Van Ness Avenue, and Van Ness between Lombard Street and Golden Gate Avenue;
- Route 1 - Park Presidio Boulevard, 19th Avenue , and Junipero Serra Boulevard south of 19th Avenue;
- Route 35 - Sloat Boulevard between 19th Avenue and Skyline Boulevard as well as Skyline Boulevard.

City Arterials

The CMP network includes 102 miles of city arterials. Appendix III lists all city arterials included in the CMP network in addition to those designated as state routes.

c. Proposed Changes - Rationale

State law prohibits the removal of roadway facilities from the initially designated CMP network. This is intended to ensure proper monitoring of system performance. Facilities that are physically removed from the transportation system, such as the Embarcadero Freeway, are obviously not affected by this prohibition, but will be evaluated for future inclusion and monitoring as part of the CMP network once replaced or rehabilitated. New facilities may be added to the CMP network without restrictions, subject to the established criteria for inclusion. In order to improve the reliability of performance (LOS) monitoring, the 1993 CMP introduced changes to the segmentation of roadway facilities. These changes and their rationale are described in Chapter 4.

No further changes are proposed in the 1997 CMP.

d. Relationship to the MTS

San Francisco's CMP roadway network is broadly consistent with the Metropolitan Transportation System (MTS), as defined by the Metropolitan Transportation Commission's (MTC) latest revisions to the Regional Transportation Plan. The MTS is a regional network of roadways, transit corridors and transfer points, identified by the MTC on the basis of specific criteria. The State highways and major thoroughfares designated in San Francisco's CMP roadway network are all included in the regional MTS network. There are a few instances in which the local CMP roadway network is not identical to the regional MTS network due to differences in the criteria used to define each network. San Francisco's CMP and MTS networks are coordinated with the networks of adjacent counties, to ensure regional connectivity.

As a result of a 1993 agreement, the MTC has delegated responsibility to the Authority for implementation of certain mandates contained in the federal Interstate Surface Transportation and Efficiency Act of 1991, including the analysis of

potential impacts on the MTS of proposed local land use decisions (see Chapter 7).

4. Work Program Items – Key Milestones

- Consider additional roadway facilities for the network - By March 1999 (for the next CMP update).

JAN 2004
March/April 2004 Monitor
NOV 2001

CHAPTER 4

ROADWAY LEVEL OF SERVICE (LOS) MONITORING

Key Topics:

- Legislative Requirements
- Legislative Intent and Application to San Francisco
- Technical Approach
- Monitoring Results
- Future Monitoring Approach
- Caltrans Role
- Work Program Items – Key Milestones

The previous Chapter described the CMP roadway network and the criteria for inclusion of certain roadway facilities. This chapter documents the methodology used for monitoring this system, and provides a comparison of monitoring results from1991, 1993, 1995, and 1997.

1. Legislative Requirements

The California Government Code requires the establishment of operating standards for the CMP-designated network of roadway facilities, and it leaves to the CMA the choice among allowable methods for measurement of level of service (LOS) as detailed in one of the following sources:

- Transportation Research Board Circular 212 (TRC 212),
- Transportation Research Board's Special Report 209: *Highway Capacity Manual (HCM)*, latest version; or
- A uniform methodology adopted by the CMA that is consistent with *the Highway Capacity Manual.*

Section 65089(b)(1)(B) states that "In no case shall the LOS standards established be below the LOS E or the current level, whichever is farthest from LOS A. When the level of service on a segment or at an intersection fails to attain the established level of service standard, a deficiency plan shall be adopted pursuant so section 65089.4" In addition, Section 65089.3 establishes that "The [California] [D]epartment [of Transportation] is responsible for data collection and analysis on state highways, unless the agency designates that responsibility to another entity."

2. Legislative Intent and Application to San Francisco

LOS is a traffic engineering concept designed to describe the operating conditions on a roadway. LOS describes operating conditions on a scale of A to F, with A being the best (free flow), and F being the worst (bumper-to-bumper) conditions. Attributes that make up the A to F degrees of the LOS scale are a mixture of quantitative measures (such as speed and travel time), and qualitative observations, such as freedom to maneuver. The result is a system that is highly descriptive, but which also allows meaningful quantification and comparison of results for different facilities and situations.

LOS standards are the reference point or quantified goal against which it is possible to measure the performance of the CMP roadway network. If actual system

performance falls below the standard, (i.e. congestion worsens) actions must be taken to restore or improve LOS. Annually the Congestion Management Agency is required to determine the City's conformance with the CMP, including attainment of LOS standards.

The intent of the legislation is to use LOS as the main indicator of congestion and as the uniform yardstick for measurement of improvement, as well as to gauge the congestion abatement potential of proposed transportation solutions. The choice of LOS for this purpose reflects the suburban roots of the congestion management legislation: congestion relief is to be measured by the ability of the transportation system to move automobiles, because in the suburbs the single-occupant automobile is still the prevalent mode of transportation. It also reflects the fact the LOS has been used and codified more extensively and systematically than any other transportation facility performance method. Therefore, LOS is also the method that offers least potential for controversy or challenge when a CMA makes a finding of non-conformance.

Improvements on the LOS scale ensure better travel conditions for motorists, but the LOS scale does not take into account the *people* throughput potential of a roadway. Under optimum (LOS A) operating conditions, a city arterial may be carrying the maximum number of automobiles at high speed, but if each vehicle carries only the driver the people throughput of the facility is suboptimal. San Francisco faces a double challenge on this issue: on the one hand the City must comply with the LOS requirements and prevent LOS conditions from deteriorating below the set standards; on the other hand, it must strive to identify a performance measurement method that reflects San Francisco's transportation realities more appropriately than LOS.

Over the next decade, the performance measurement method will play an increasingly significant role in San Francisco's congestion management efforts as the City undertakes or completes rehabilitation of a number of significant transportation projects, such as the Embarcadero Roadway, the Terminal, Doyle Drive, and the MUNI Metro Turnback. Mitigation of congestion impacts and analysis of deficiencies will require significant coordination between City departments and the Authority, to ensure continued conformance with CMP requirements.

The maintenance of LOS standards on CMP roadways in San Francisco requires a comprehensive and multimodal approach which takes into account the congestion relief potential of transit and other non-automobile based solutions, as well as operational improvements to roadways.

3. Technical Approach

Biennially the Authority performs LOS monitoring on the CMP network using Federal planning funds available for this purpose. At the time of conformance findings, the Authority acting as the CMA, assesses the City's conformance with LOS standards based on the results of monitoring. The CMA ensures that LOS measurement methods used by its contractors, Caltrans, or any other agencies involved in monitoring the CMP network are consistent with State law.

a. LOS Standard

The traffic LOS standard for San Francisco is consistent with CMP mandated criteria and was established at E in the initial (1991) CMP network facilities which were already operating at LOS F at the time of baseline monitoring

conducted in connection with the development of the first CMP in 1991.

b. Methodology

The methodology used for monitoring LOS on San Francisco's CMP network follows the specifications detailed in the Highway Capacity Manual. All 134 miles of freeways and arterials in the network are monitored using a floating car technique, which allows determination of LOS on the basis of average operating speed. For this purpose the network is divided into 89 segments. For a detailed description of monitoring techniques, refer to Appendix IV.

i. Freeways

US Route 101, Interstate 80, and roadway facilities with designated freeway status in San Francisco. Each of these freeways also serves as a primary gateway for interregional travel between San Francisco and adjacent counties. Consistent with the law, LOS monitoring for these facilities is based on average operating speed. In addition, an alternative measure of LOS using the ratio of observed traffic volumes to freeway capacity (or "V/C ratios") at selected county border screenlines is used as a test of reasonableness of LOS monitoring results. Volume data for interstate 80 at the Bay Bridge toll plaza are available through the Metropolitan Transportation Commission for this purpose. Similarly, volume data for US Route 101 at the Golden Gate Bridge toll plaza are available from the Golden Gate Bridge, Highway and Transportation District. For this facility V/C ratio is calculated for the morning peak period, inbound into San Francisco, because toll payment allows more accurate enumeration than outbound (toll free) travel.

ii. Arterials

Arterials designated in San Francisco's CMP network include the following three groups of streets:

- ✓ segments of state routes which operate on City streets;
- ✓ major thoroughfares identified in the City's General Plan;
- ✓ other major streets with significant conflicts between automobile traffic and high volumes of transit service.

These three groups of City streets form the backbone of San Francisco's arterial network. The operation of these arterials is controlled through an interconnected set of signalized intersections. The overall performance of each arterial is best evaluated through analysis of segments of each roadway. Evaluation is performed following the "Urban and Suburban Arterial" methodology of the 1985 Highway Capacity Manual (Chapter 11). The methodology is applied to determine level-of-service for each arterial segment using direct field measurements of average travel speed.

c. Network Segmentation Documentation of Method and Criteria

Development of the 1993 CMP included a comprehensive effort to document the criteria used in 1991 to establish the initial segmentation of the CMP roadway network in San Francisco, including freeway facilities. The following five

criteria were identified as major determinants of segment limits for the city arterials in the CMP: predominant development patterns (including factors such as number of driveways, institutional users, etc.), changes in speed limits, major cross streets, significant changes in traffic volumes, and occurrence of freeway ramps. These criteria are dictated by accepted traffic engineering practice, and they reflect factors that are generally recognized as significant in explaining the operating behavior of a roadway. Table 1 in Appendix III contains a listing of all CMP arterials in San Francisco, highlighting the specific criteria that apply to determine the geographic limits of each segment.

For freeway facilities the segmentation criteria are simpler. They include interchange on and off ramps, and points were two freeway facilities merge or bifurcate. Segment limits for freeways in the San Francisco CMP are also shown in Appendix III.

Segmentation changes

Table 2 in Appendix III lists all CMP arterials where segmentation changes were introduced as part of the 1993 CMP, including a technical justification. Changes were introduced in the segmentation of 18 arterial in the network. The new arterial segments follow more closely the five segmentation criteria described above, and they provide a better framework for monitoring of LOS, improving comparability of results among similar facilities. By better reflecting local conditions these new segments increase the reliability and explanatory power of LOS measurements on the network. This is essential to provide a solid basis for decision-making leading to development and implementation of congestion management actions. No segmentation changes were proposed as a result of the 1997 LOS monitoring cycle, but changes may be considered during fiscal years 1997-8 and 1998-9, as necessary.

4. Monitoring Results

In order to determine initial ("baseline") LOS conditions, monitoring of the CMP network was performed by the Department of Parking and Traffic during the summer of 1991. This initial monitoring also allowed identification of network segments at LOS F which are legislatively exempted from conformance with the established LOS "E" standard but will continue to be periodically monitored and targeted for congestion management measures as appropriate. CMP arterial and freeway segments identified at LOS F in the 1991 San Francisco CMP are shown in Appendix IV.

Tables I through IV in Appendix IV show LOS monitoring results for all segments of arterial and freeways in the CMP network. The information includes segment length, direction of travel, time of day (AM and PM peak), average operating speed measured, and LOS results for 1991, 1993, 1995, and 1997.

LOS monitoring for the current conformance determination cycle was performed during August and September 1997. Figures 4-1 and 4-2 show LOS for the PM peak period for those CMP network segments monitoring in 1997.

Table 4-1 lists the six segments which were found to be at LOS F during the 1997 monitoring. All of these LOS F segments were affected by nearby reconstruction activities. Therefore, as allowed by state law, none of these segments constitutes a deficiency.

Figure 4-1
San Francisco Congestion Management Program

1997 Level of Service Monitoring Results: PM Period

Level of Service

- C
- D
- E
- F
- Not monitored in 1997

Source: SFCTA Transpotation Analysis Database
Basemap: San Francisco Department of Public Works

Figure 4-2
San Francisco Congestion Management Program
Roadway Network

1997 Level of Service Monitoring Results: PM Period
Downtown Area Detail

Level of Service
- C
- D
- E
- F
- Not monitored in 1997

Source: SFCTA Transpotation Analysis Database
Basemap: San Francisco Department of Public Works

Table 4-1
1997 LOS Monitoring Results - LOS F Segments

A.M. Peak Period

CMP Route	Limits	Speed Results	Comments
Duboce Avenue	Market Street to Mission Street	1995: 9.1 mph (D) 1997: 3.0 mph (F)	These results were affected by reconstruction of the Central Freeway. They do not constitute a deficiency.
Fell Street	Gough Street to Market Street	1995: 12.0 mph (D) 1997: 4.3 mph (F)	These results were affected by reconstruction of the Central Freeway. They do not constitute a deficiency.
Gough Street	Golden Gate Ave. to Market Street	1995: 11.1 mph (D) 1997: 6.5 mph (F)	These results were affected by reconstruction of the Central Freeway. They do not constitute a deficiency.

P.M. Peak Period

CMP Route	Limits	Speed Results	Comments
Junipero Serra Boulevard	Sloat Boulevard to 19th Avenue	1995: 20.6 mph (D) 1997: 11.8 mph (F)	These results were affected by reconstruction/repaving of 19th Avenue. They do not constitute a deficiency.
Junipero Serra Boulevard	19th Avenue to Sloat Boulevard	1995: 18.9 mph (D) 1997: 12.8 mph (F)	These results were affected by reconstruction/repaving of 19th Avenue. They do not constitute a deficiency.
Main Street	Mission Street to Market Street	1995: 8.4 mph (E) 1997: 6.7 mph (F)	These results were affected by reconstruction of Market Street. They do not constitute a deficiency.

5. Future Monitoring Approach

In addition to average speed measurements, during fiscal years 1997-8 and 1998-9, the Authority will be exploring with the Department of Parking and Traffic the possibility of systematizing existing measurements of arterial traffic volumes by tube counts (mechanical counters) so that they can provide additional data at regular intervals. Other possibilities, including installation of traffic counting loop detectors at permanent counter stations, and the need for new cordon counts of downtown (the last one was in 1983) will also be considered. Arterial volume counts may be used to monitor the progress of congestion management actions in between biennial LOS measurements. The Authority may perform more frequent average operating speed monitoring, if tube counts or other evidence gathered between biennial conformance determinations suggests significant or more rapid increase in congestion than initially anticipated and if this trend should jeopardize CMP conformance in the short term.

Although the focus of the Congestion Management Program is on system-level analysis and link-level measurement of LOS, in order to more closely track the evolution of congestion problems on the CMP network, the Authority may require an examination of operating conditions at certain intersections. Intersection analysis techniques will follow the methodology described in Chapter 9 of the 1985 Highway Capacity Manual. In addition, operational analyses of intersections for assessment of impacts in connection with land development proposals will follow the analytical methods detailed in the City's environmental review guidelines (see Chapter 7: *Land Use Analysis Program*)

6. Caltrans' Role

Although Section 65089.3 establishes that Caltrans is responsible for LOS monitoring on the State highway system, the department has not been able to fully address this obligation due to budget constraints. The Authority continues to work with Caltrans District 4, MTC and the other Bay Area CMAs to ensure that freeway operations data still being collected by Caltrans is put to the best possible use to help satisfy CMP monitoring requirements. Until a budget solution is found, the Authority will continue to include state highways in its periodic LOS monitoring efforts to ensure that the information is available to satisfy CMP conformance determination requirements.

7. Work Program Items—Key Milestones

- Develop approach for incorporation of traffic count information (arterials and freeways) into the CMP monitoring process, by December 1998.
- Propose CMP network segmentation changes if necessary.

CHAPTER 5

MULTIMODAL PERFORMANCE ELEMENT

Key Topics:

- Legislative Requirements
- Legislative Intent and Application to San Francisco
- Multimodal Performance and Mobility
- Uses of Multimodal Performance Measures
- Methodology for Performance Evaluation
- Work Program Items -Key Milestones

1. Legislative Requirements

Section 65089(b)(2) replaces the transit service standards requirements in the 1991 and 1993 CMPs. It is the result of changes to CMP law introduced by AB 1963 in 1994. The statutes state that the CMP shall ~~include~~ contain "[a] performance element that includes performance measures to evaluate current and future multimodal system performance for the movement of people and goods. At a minimum, these performance measures shall incorporate highway and roadway system performance, and measures established for the frequency and routing of public transit, and for the coordination of transit service provided by separate operators. These performance measures shall support mobility, air quality, land use, and economic objectives, and shall be used in the development of the capital improvement program..., deficiency plans..., and the land use analysis program...."

2. Legislative Intent and Application to San Francisco

The intent of the new performance element is to broaden the very narrow definition of performance used in the original legislation, which limited measurement to (LOS) Level of Service on roadways. It is an acknowledgment of the need for diversified solutions to complex transportation problems in urban areas, and the impossibility of tackling them with just one mode. Furthermore, the performance element recognizes the connection between transportation investment and system performance and that this performance should be measured.

? ADD something about bike / ped

San Francisco's environment is suited to the use of alternative performance measures and to the application of multimodal performance criteria. High transit share and large transit investments mean that the City will benefit from a multimodal approach to system performance.

Although the legislative intent is clearly to encourage the use of alternatives to traveling by single-occupant automobile, lack of additional funding for transit operations dictates a cautious approach to determining the degree to which congestion mitigation will be dependent on expansion of traditional fixed-route transit service. Other alternatives for improving mobility and addressing congestion are addressed in the Chapter 6: Trip Reduction Element.

3. Multimodal Performance and Mobility

The performance of the multimodal transportation system has a critical impact on mobility in San Francisco. Mobility is a concept which is not easily defined in a few

words, but it refers to people's ability to travel, or ease of travel from point A to point B. Mobility has several key aspects. In analyzing mobility involving, for example, travel from A to B, we would consider:

a. the availability, convenience, and accessibility of transportation between A and B.
b. the availability of *options* (more than one mode of transportation, or more than one alternative within a mode, such as different bus routes) to travel between A and B
c. the *affordability* of transportation between A and B
d. the *reliability* of transportation between A and B
e. the *safety* of transportation between A and B

These are attributes of the transportation system, but they are not constant. They are likely to vary if we consider a different origin-destination pair, instead of A and B; and they may even vary for different types of users even considering the same A/B pair: for example the same bus route may be convenient to one person and inaccessible to their next door neighbor who cannot walk one block uphill to the bus stop. These system attributes also vary with trip purpose and time of day. A 20-minute bus headway may be OK for a mid-day shopping trip, but may be inadequate for a morning commute trip. Similarly, a 20-minute wait for a bus may not be an option at night in an unsafe neighborhood.

Thus, the same A/B pair may have several different accessibility ratings depending on age, physical disability, or time of day. It is easy to see how traditional service quality indicators, such as geographic coverage or bus route frequency only provide part of the system performance picture. These distinctions can in many cases explain the choice between transit and other modes, particularly for trips within San Francisco, and are therefore very important to consider in attempting to measure system performance. This is so because in measuring performance we are measuring the ability of the system to satisfy the transportation needs of all San Franciscans.

4. Uses of Multimodal Performance Measures

Multimodal performance measures will be used for the following purposes:

a. **CMP Conformance Determinations:** Link (roadway) Level of Service (LOS) will continue to be used for conformance determinations ~~for the next year~~, while additional performance measures are further developed and tested.

b. **CIP Amendments:** The Authority will continue to evaluate the potential impacts of proposed CIP changes on the performance of the multimodal network. This information is used as one of the factors in deciding Authority concurrence with such proposals. See Chapter 8 for further details.

c. **Deficiency Plans:** Only link LOS measurements will be used for deficiency determinations. However, other multimodal measures will be used in the assessment of future deficiencies, though predictive deficiency identification does not have conformance implications under current CMP law.

d. **Land Use Impacts Analysis:** Multimodal performance measures will be used for the analysis of impacts of local land use decisions on the CMP network. Because the land use impacts analysis process is only advisory, the

Authority expects to apply a number of performance measures to the analysis, to test their adequacy over time. For further details, please refer to Chapter 7.

5. Methodology for Performance Evaluation

Consistent with state law, the 1997 San Francisco CMP distinguishes between two tiers of performance measures. Tier 1 includes roadway LOS plus three transit service performance measures: routing, frequency, and interoperator service coordination. These are the most traditional measures, with a more substantially documented record of reliability in terms of our ability to measure and interpret them accurately. Roadway LOS is used in connection with CMP conformance determinations.

Tier 2 includes new multimodal performance measures which require continued testing before they are applied to the CMP conformance process. Standards will be developed for these performance measures according to the results of testing over time. The Authority's main technical vehicle for development of a final set of Tier 2 performance measures is the Citywide Mobility Study, currently underway. For a description of this study, please refer to Section 5.5.4, below.

Starting in June 1998, Authority staff will prepare an annual system performance report and submit it for consideration by the Authority Board. The 1998 report will include information about Tier 1 measures and a progress report on Tier 2 activities. Transit performance information will also be included, as described in section 5.5.3.

5.5.1

5.1. Criteria For Selection of Tier 2 Performance Measures

In order to minimize data collection efforts, performance measures should be reliable, intuitive, and the data required should be readily available from City departments or from other Authority activities. In addition, these measures must be relevant to the evaluation of mobility issues as described in Section 3 above, and applicable to the specific CMP uses described in Section 4 above,

The Authority's Transportation Analysis Database (TAD) is the main tool for analysis of system performance and it will be the main repository for performance-related data. A detailed description of the TAD is included in Chapter 10.

The TAD facilitates measurement and evaluation of non-traditional performance aspects, such as those related to pedestrian and bicycle travel. The ongoing development and testing of Tier 2 measures takes into account the need for measurement of performance for these forms of travel in addition to transit and roadway performance.

Tier 1 and 2 performance measures are described in detail in the following sections.

5.5.2. Tier 1 Performance Measures

a. **Roadway Level of Service (LOS):** This is the most traditional and best documented performance measure. It is also not the most adequate to assess performance in a system which includes a major transit component, as well as substantial amounts of pedestrian and bicycle travel. It is described in detail in Chapter 4: LOS Monitoring.

b. **Transit Coverage/Routing:** This refers to the pattern of the transit route network (e.g., radial, grid, etc.) and the service area covered (e.g., percent of total population served within one-quarter mile; or percent of total urbanized area served).

c. **Transit Frequency:** This is the number of transit vehicles (buses, trains or ferries) per hour (e.g., 4 buses per hour). The inverse of the frequency is called "headway", which is the time between transit vehicles (e.g., 15 minutes between buses).

Table 5-A shows frequency and coverage standards for all transit operators that provide service in San Francisco. For ease of understanding, in all cases frequency standards are expressed headways, which is the time between two consecutive transit vehicles in a given route. For example: instead of "4 buses per hour" (i.e., frequency of service), the tables show "15-minute headways".

A number of transit operators provide connections to and from points outside the city. Because of the predominantly suburban, low-density environment in which they function, which limits the amount and kinds of service they can provide, these operators have established significantly different standards from those that MUNI is expected to achieve in San Francisco. These differences are reflected in Table 5-A. The transit standards are essentially established policy and in most cases are taken directly from each operator's current Short Range Transit Plan.

d. **Interoperator Coordination:** This addresses the linkages between transit services provided by different operators (e.g., timed transfers at transit centers, joint fare cards, etc.), to facilitate the use of transit.

Senate Bill 602 requires that MTC, in coordination with the Bay Area's Regional Transit Coordinating Committee (RTCC), develop rules and regulations for fare and schedule coordination in MTC's nine-county Bay region. The SB 602 process, already under way for four years, is considered sufficient to meet the intent of CMP law regarding transit service coordination in the region. Compliance with the SB 602 process by MUNI and all other operators serving San Francisco will therefore constitute sufficient grounds for a finding of conformance with CMP transit coordination requirements.

5.5.3. Tier 2 Performance Measures

Three new multimodal performance measures will be considered and tested over the next 2 fiscal years. They include:

a. **Travel Time:** This measure addresses travel times between a set of origins and destinations (up to 20 pairs) in San Francisco. They will be measured for different modes, including private automobile and transit.

b. **Travel Options:** This measure will address actual alternatives for trip making. It will focus on the investigation of alternatives for travel by transit (alternative routes, or combinations of routes), and the factors affecting them (such as street safety, topography, etc.)

c. **Travel Time Predictability:** This measure will address the ability of the transportation system to ensure that trip durations (by different modes) in San

Francisco remain fairly constant over time.

These measures are expected to be very significant in explaining people's choices of a mode of transportation within the city. In order to further refine the measures and calculation methods for these Tier 2 performance measures, the Authority initiated the Citywide Mobility Study, currently underway. The study is further described in Section 5.5.4 below.

Tier 2 performance measures will be measured using a combination of field observations, transit timetables, street topography data, statistics about neighborhood safety, demographic characteristics and transit route safety. Except for the field measurements, the rest of the information is collected routinely by different City departments and is readily available. The Transportation Analysis Database will be used to analyze the data.

Other variables such as person throughput, modal split, bicycle performance, and measures related to ferry service, (including non-commute and weekend) have been suggested and will be further considered. By February 1998, the Authority will, after consultation with City departments, confirm or modify the list of Tier 2 variables. Emphasis will be placed on variables that are relatively easy and inexpensive to measure while providing acceptably reliable results. Testing of proposed Tier 2 performance measures will be completed by April 1998. Final Tier 2 measures for application to the performance evaluation process, will be selected by May 1998.

5.5.4 The Citywide Mobility Study

The Citywide Mobility Study was undertaken by the Authority to provide a systematic framework for a) selecting new multimodal performance measures for San Francisco, and b) establishing an acceptable method for calculating those measures. These are the measures that will satisfy Tier 2 performance evaluation as described in the previous sections.

An important observation is that in order to track a given performance measure it may be necessary to measure several different variables that make up that performance measure. For example in order to come up with a quantitative measure of "travel options" we may need to collect data such as travel time, cost and schedule reliability about travel by transit, automobile and bicycle. The quantified performance measure will be a combination of these factors, calculated through a formula that assigns relative weights to each factor.

Once the relative weight of these factors is established, the performance measure can be calculated for different geographic areas, or for different system users. This calculation can take place taking advantage of the capabilities of the Transportation Analysis Database, and reducing the need for very expensive ongoing data collection in the field.

In proposing the three Tier 2 performance measures discussed in 5.5.3, the Authority made assumptions about the significance of Travel Time, Travel Options and Travel Time Predictability both as determinants of travel behavior and as reliable indicators of the quality and level of mobility available to different San Francisco residents. A primary goal of the mobility study is to collect data necessary to corroborate those assumptions.

The Mobility Study is structured in three phases, leading to the development of recommended performance measures. The first phase is to conduct focus groups to hear the opinions of San Francisco transportation system users about what they perceive as important in making their own choices about

travel within the city. This step is intended to both verify that our initial assumptions about critical variables (travel time, schedule reliability, etc) were correct, and also to identify any other factors that we may have overlooked, but which may figure significantly in people's travel behavior. The Authority recently held two focus groups. The groups included a broad cross-sections of San Francisco transportation system users, including various socioeconomic strata, geographic locations, transportation modes, and so on. The results are being used in the second step.

The second step in the study is to conduct telephone interviews. These are intended to provide validation at a statistically significant level of the views and opinions elicited from San Francisco system users during the focus groups. The Authority's approach is to conduct these telephone surveys over several waves, collecting data that may allow validation of the focus group results first at a more general level and then addressed more specific populations. The basic outcome of the telephone surveys is a ranking of variables or factors according to their power as explanatory variables of travel behavior or mode choices among San Francisco travelers. This ranking of variables becomes the basis for the next step.

In the last step of the study, the variables identified as having a significant role in explaining travel behavior in San Francisco are used as part of algorithms in the Authority's Transportation Analysis Database (TAD) to calculate the proposed performance measures. What emerges is a picture, which can be presented from many different perspectives (by geographic area, by the gender, age or income of the user, by the transportation mode, etc.) of how the transportation system is performing vis-à-vis the needs of the users.

The TAD has been prepared over the last year to be able to process data about many variables and generate performance measure results. For example the TAD is capable of calculating walking times based on a given origin and destination pair in San Francisco. The TAD can also generate a shortest path for an automobile or transit trip, based on transit schedules (modified to account for schedule reliability) and on driving speeds on city streets (arrived at by considering data such as posted speeds, congestion levels monitored as described in Chapter 4, stop signs, traffic lights, turn restrictions, and so on).

The first wave of telephone surveys was completed in November 1997. Testing of the proposed multimodal measures is expected to be completed by April 1998, with recommendations for Board approval targeted for May 1998.

5.5.5 Other Tier 2 Performance Measures Derived from Existing Data

In addition to the measures described in sections 5.5.2 and 3, above, there are a number of other measures that can provide further perspective on the performance of the transit system, particularly as relates to other providers in the industry. Table 5-B includes seven such measures which will be tracked and included in the annual performance report to the Authority Board. These measures can be tracked using data currently collected by MUNI and other transit operators.

Table 5-A

Transit Service
Frequency and Coverage Standards
MUNI

Frequency Standard

20-minute maximum headway on radial and cross-town lines.
30-minute maximum headway on community and feeder lines.

Coverage Standard

Walking distance to a route is a quarter mile of less.

*MUNI is currently considering major revisions to the performance element of the SRTP. Once approved, the new perf. meas. will be incorp into the CMP as appropriate.

AC TRANSIT

Frequency Standard

SERVICE TYPE	TIME PERIOD				
	Peak	Mid-day	Night	Owl	Weekend/Holidays
Transbay Express	10-30	--	--	--	--
Transbay Basic	10-15	30-45	45-60	--	30

Coverage Standard

AC Transit provides two levels of service to the Transbay Terminal in San Francisco. Transbay Express provides medium to high frequency peak-hour service between San Francisco and selected areas of the District where there is demand for transit services which BART cannot meet. Transbay Basic provides direct service between San Francisco and major East Bay areas that are not well served by BART; the service operates all day at a medium to high frequency on a local and/or limited stop basis.

Table 5-A (cont.)

BART

Frequency Standard

LINE

TIME PERIOD	Pittsburg/ Bay Point Colma	Dublin/ Pleasanton Daly City	Fremont Daly City	Richmond Daly City *	Downtown San Francisco (City Center)
Weekday Peak	5	15	15	15	2.7
Weekday Mid-day	15	15	15	15	3.8
Weekday Night	20	20	–	–	10.0
Saturday Day	20	20	20	20	5.0
Saturday Night	20	20	–	–	10.0
Sunday/Holiday all day	20	20	–	–	10.0

Coverage Standard

BART rail service is provided between the hours of 4:00 a.m. and approximately 1:30 a.m. Monday through Friday, 6 a.m. to approximately 1:30 a.m. on Saturdays, and 8 a.m. to approximately 1:30 a.m. on Sundays and major holidays. Closings for individual stations are timed with the schedule for the last train beginning at approximately midnight.

BART has eight stations in San Francisco: Four spaced a half mile apart on Market Street and four at variable distances in the southwestern part of the City.

*Peak period service is to Colma.

Table 5-A (cont.)

CALTRAIN

Frequency Standard
30-minute headways during the peak, supplemented by express service at up to 5 minute headways.

1 hour headways off-peak

Coverage Standard
The Caltrain system operates on a 76.8 mile route between San Francisco and Gilroy. There are 34 stations in the 19 cities that Caltrain serves, including four in San Francisco. Stations are spaced an average of 2.3 miles apart.

GOLDEN GATE TRANSIT

Frequency Standard

	TIME PERIOD	
	Peak	Base
SERVICE TYPE		
Commute Bus	--[1]	--
Basic Service Bus	30	60
Larkspur Ferry	30	2 hrs.
Sausalito Ferry	70	1.5 hrs.

1For commute bus service, Golden Gate Transit's policy is to provide as many buses needed in order to meet demand.

Coverage Standard

Commute bus routes operate weekdays, in the peak travel direction, between residential areas in Marin and Sonoma Counties and the San Francisco Finance District and Civic Center.

Basic service routes operate all day, seven days a week, between the Transbay Terminal and Civic Center in San Francisco and various suburban centers within Marin and Sonoma Counties.

The Sausalito Ferry operates with one boat and can only provide service as quickly as it can travel back and forth between Sausalito and San Francisco, usually an hour and a half.

Table 5-A (cont.)

SAMTRANS

Frequency Standard

SERVICE TYPE	TIME PERIOD Peak	Base
Commute Bus	30	--
Basic Service Bus	10-30	60

Coverage Standard

Samtrans is currently developing new coverage standards as part of a system-wide bus evaluation study. The standards will likely emphasize providing service to high density and transit dependent areas.

Table 5-B
MEASURES OF TRANSIT SERVICE PERFORMANCE

Performance Characteristic Addressed	Performance Measure Proposed
1. Efficiency	Cost per revenue vehicle hour
2. Efficiency	Cost per passenger
3. Efficiency	Cost per passenger mile
4. Efficiency	Revenue Vehicle Hours per Employee
5. Effectiveness	Passengers per Revenue Vehicle Hour
6. Effectiveness	Passengers per Revenue Vehicle Mile
7. Service Reliability	Percent of scheduled runs missed
8. Service Reliability	Percent of scheduled runs on time

6. Work Program Items - Key Milestones

- Finalize selection of Tier 2 performance measures through the Mobility Study - By February 1998
- Identify other Tier 2 performance measures through consultation with City Departments - By February 1998
- Complete testing of proposed Tier 2 multimodal performance measures - By April 1998
- Present recommended multimodal performance measures for Board approval - By May 1998
- Present annual performance report to the Authority Board - By June 1998

THIS PAGE
INTENTIONALLY LEFT BLANK

CHAPTER 6

TRAVEL DEMAND MANAGEMENT ELEMENT

Key Topics:

- Legislative Requirements
- Legislative Intent and Application to San Francisco
- City Policy Framework
- Housing and Employment Balance
- Relationship of Travel Demand Management Activities to Air Quality Improvement Efforts
- Work Program - Key Milestones

1. Legislative Requirements

California Government Code Section 65089 (b)(3) requires development of a "...travel demand element that promotes alternative transportation methods, including, but not limited to, carpools, vanpools, transit, bicycles, and park-and-ride lots; improvements in the balance between jobs and housing; and other strategies, including, but not limited to, flexible work hours, telecommuting, and parking management programs." Parking cash-out programs can be considered as well. Each local jurisdiction was expected to adopt a Trip Reduction and Travel Demand Ordinance which incorporates these policies no later than November 1992.

Section 65088.1 of the Government Code and section 43845 of the Health and Safety Code require CMAs to consider and define a parking cash-out program as: an employer funded program under which an employer offers to provide a cash allowance to an employee equivalent to the parking subsidy that the employer would otherwise pay to provide the employee with a parking space. Parking subsidy means the difference between the out-of-pocket amount paid by an employer on a regular basis in order to secure the availability of an employee parking space not owned by the employer and the price, if any, charged to an employee for use of that space. Section 43845 of the Health and Safety Code further specifies that the parking cash-out programs apply to employers of 50 or more persons in air basins designated as non-attainment areas under the State's Clean Air Plan.

In addition, Regulation 13, Rule 1, adopted on December 16, 1993, by the Bay Area Air Quality Management District (BAAQMD) in response to the mandates in the California Clean Air Act (CCAA), established a requirement for the development of trip reduction programs for all large public and private employers, defined as those with 100 or more employees at a single work site. In September 1995, however, the Legislature passed SB 437 (Lewis) which prohibits local jurisdictions, air districts or CMAs from imposing employer-based trip reduction mandates unless explicitly called for in federal law.

2. Legislative Intent and Application to San Francisco

The Travel Demand Management Element is a key feature of the CMP legislation. While the land use impacts analysis program and level-of-service monitoring activities fulfill primarily a diagnostic function, identifying potential or actual congestion problems so that solutions can be developed, the travel demand management element encourages

the establishment of local policy (i.e., trip reduction ordinances) coordinated at the subregional (county) level, explicitly aimed at curbing congestion by promoting changes in trip-making behavior affecting both the nature of travel (as in staggered work hours), as well as the choice of travel mode (as in transit and shared rides instead of solo driving).

The requirement for local jurisdictions to consider parking cash-out programs as part of their trip reduction efforts, a 1992 addition to the original CMP legislation, aims at institutionalizing the notion of balance between the level of subsidy for different modes of transportation. Free parking at the work site, a traditional attribute of most employment opportunities (except in the urban core), is to be reconsidered. Transportation cost is redefined as a kind of employer-paid benefit, and employees can choose to use their transportation allowance to, for instance, pay for parking at the work site, pay for transit fare, or to participate in a vanpool. Charging the users the true cost of parking, it is argued, makes other options economically thinkable, and possibly even more attractive than driving alone. Issues of equity, feasibility and timing of implementation remain to be addressed, especially in suburban locations where transit service is usually not in place or must first be vastly improved before it can become a viable commute option. The City's parking policies, including a 25% tax on all off-street parking, are geared to discourage access into downtown by single occupant vehicles.

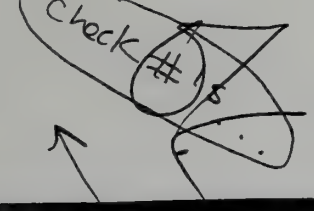
3. City Policy Framework

While San Francisco does not have an official citywide Travel Demand Management Ordinance, over the last two decades the City has adopted a variety of policies designed to discourage travel by single-occupant automobile and promote other transportation alternatives. As a result the City was able to accommodate unprecedented growth in travel demand without significantly increasing investment in highway and street capacity expansion. In 1973, the City Planning Commission and the Board of Supervisors adopted the Transit First policy, giving priority to transit investment versus highway investment geared toward accommodating the single occupant automobile. Over the next twenty years, this policy evolved into a set of strategies advocating the use of transit and other alternative modes of transportation. Transit First is San Francisco's pioneering and comprehensive response to the need for trip reduction and travel demand management. The City's Transit First Policy is documented in the Transportation Element of the City's General Plan; the Planning Code; and other City ordinances.

The following sections describe in detail the General Plan's objectives and policies which focus on the Transit First policy. City Planning Code and other City ordinances intended to implement this policy are also discussed. Following that, a section of this chapter discusses policies intended to reduce travel demand by addressing the balance between housing supply and employment growth. The final section examines the relationship of San Francisco's travel demand policies to regional recommendations for Transportation Control Measures designed to achieve air quality objectives.

A. Objectives and Policies in the General Plan

The following objectives and policies of the Transportation Element of the General Plan focus on the City's policy toward a **transit oriented solution** to growth in travel demand, as well as the City's comprehensive transportation planning approach, which discourages the use of the single-occupant automobile.



Objective 10 - Policy 10.1: **promotes the use of multimodal performance measures** to assess the performance of the transportation system, and places the emphasis on person throughput over vehicle throughput.

Objective 11 : **gives priority to public transit** as the means of meeting transportation needs, and calls for the coordination and linkage of regional and local transportation systems.

Objective 12: calls for the **development of transportation demand management programs** to help reduce the number of single occupant vehicle trips and thereby contribute to reduced congestion and improved air quality.

Objective 13: promotes **the development of marketing strategies** (e.g. advertising, providing transit information) to encourage use of transit and other alternatives to the single occupant automobile for non-work trips such as shopping and recreational trips.

Objective 14: calls for **development and implementation of transportation system management strategies** to improve the efficiency of existing transportation facilities.

Objective 15: **promotes the use of TSM measures** to reduce the impacts of automobile traffic on residential streets.

Objective 16: : encourages **development of programs to manage parking at employment centers citywide**, and provide incentives to use transit or other alternatives.

Objective 17: **Focuses on discouraging provision of new long-term parking in the downtown area** and on efficient use of existing parking.

B. Existing City Ordinances

This section describes the Planning Code and other City ordinances dealing with implementation measures that support the Transit First policy, and other strategies developed by the City to discourage the use of the single-occupant automobile.

B.1. The Planning Code

a. Parking

Unlike most central cities, San Francisco has never required the provision of a minimum number of parking spaces as a condition for approval of downtown commercial development. This approach complements the City's Transit First policy. Other Policies adopted by the City also support this concept, which has been used to discourage and effectively control the growth of automobile travel in the downtown area. A comparison between 1965 and 1983 cordon counts of all vehicles entering San Francisco's greater downtown area indicates that vehicular traffic actually *decreased* slightly(about 3.7%). During that period approximately 30 million square feet of new office space were built in the downtown area, and just between 1970 and 1980 citywide employment increased by approximately 100,000 jobs, but the number of parking spaces in downtown remained about the same. Results from the 1987 update of parking counts are consistent with this pattern.

The following paragraphs reference the Planning Code Sections that address parking policy:

Section 204.5(c) establishes that parking is allowed (though not required) in the downtown area as an accessory use. The maximum garage area for accessory parking is limited to 7% of the gross floor area of the building. Any amount above the permitted 7% requires a Conditional Use permit authorization.

Section 155(g) establishes a rate structure for parking open to the general public in the downtown area. The rate structure is intended to discourage long-term parking for all uses, with the exception of residential and hotel uses. The rate charged for four hours of parking cannot exceed four times the rate for the first hour. The rate for eight or more hours of parking cannot be less than 10 times the rate for the first hour. No discount parking is permitted for weekly, monthly or similar time-specific periods. The rate structure established under this section does not apply to stand-alone parking garages, i.e., parking that is not approved as a part of another development, although the City Planning Commission can use discretionary powers to apply the rate structure to stand-alone garages.

Section 156(h) permits new parking lots within the downtown area only as temporary uses, for a two-year period, and requires a Conditional Use permit authorization.

Section 161 eliminates parking requirements for commercial uses in dense districts which are well served by transit, including downtown, Chinatown, and Jackson Square, and reduce parking requirements in other districts based on similar criteria.
Section 223(m-p) allows parking garages as principal land uses in districts zoned C-3 (downtown commercial/office), but only by Conditional Use permit.

b. Transportation Management Programs and Transportation Brokerage Services

The purpose of these programs is to ensure that adequate measures are taken to minimize the transportation impacts caused by employment growth at major job centers. The programs are carried out by facilitating the use of transit, promoting ridesharing, and by otherwise encouraging reductions in commute travel by single-occupant automobile.

Section 163 of the Planning Code establishes a requirement for Transportation Management Programs (TMP) and Transportation Brokerage Services (TBS) for office buildings in the greater downtown area (C-3 districts) and the South of Market area. The Planning Code defines C-3 as the zoning districts in the downtown area that allow major office, retail, commercial and downtown support developments. Outside of the downtown area, these programs apply to office and commercial-industrial districts and to certain retail developments within the Mission Bay Specific Plan area. Although not categorically subject to a specific Planning Code requirement, major institutions (e.g., hospitals and universities) subject to institutional master plans can also be required to provide on-site TMP and TBS, depending on the magnitude of development and anticipated transportation impacts. These requirements are imposed when an institution requests approval of building permits pursuant to its Institutional Master Plan.

b.i. General Program Requirements.

New buildings above 100,000 square feet of gross floor area in the C-3 districts in the downtown area, and above 25,000 square feet of gross floor area in the South of Market area, are required to provide on-site TMP and TBS for the lifetime of the project. The TMP and the TBS requirements are established in the Developer's Manual, entitled "Transportation Management Programs in Greater Downtown: Developer's Manual for Procedures and Performance Criteria".

Major institutions subject to the institutional master plan procedures are encouraged to provide on-site TMP and TBS. The TMP and TBS guidelines for institutions are established in a report entitled "Transportation Management Program Reporting Requirements for Institutions".

In the Mission Bay Plan[1], office and commercial-industrial developments of at least 50,000 square feet are required to provide on-site TMP and TBS for the lifetime of the project, and to participate in a TMP developed and implemented for the area as a whole. Certain retail projects of at least 15,000 square feet are also required to participate in the TMP.

The TMP and TBS are designed to:

a. Promote and coordinate effective and efficient use of transit by office tenants, institutions and their employees, including the provision of transit information and on-site sale of transit passes;

b. Promote and coordinate ridesharing activities for employees at each office building and institution;

c. Reduce parking demand and ensure the proper and most efficient use of on-site or off-site parking;

d. Promote coordinated flextime or staggered work hours to more evenly distribute the arrival and departure times of employees, during peak commute periods; and

e. Participate in networks with providers of transportation brokerage services from other downtown office buildings and major institutions to promote common commute alternative objectives.

b.ii. Greater Downtown TMP and TBS Program Requirements - Mandated & Voluntary

Under the "Developer's Manual" the project owner is *required* to:

a. Designate a permanent **Transportation Management Coordinator (TMC)** to comply with reporting requirements, to develop and implement parking plans, and to provide

[1] The Mission Bay Plan is in the process of being revised. Future CMP's will be revised to reflect any relevant changes.

oversight and management for the program.

For buildings with parking, the TMC is required to submit a Parking Management Plan (PMP) to be reviewed and approved by the Department of City Planning. The parking plan should allocate parking among various users such as short-term, handicapped, carpools, vanpools and bicycles. The PMP should provide a plan to market preferential on-site parking for carpools and vanpools. Issuance of long-term parking leases is limited to the employees of the building.

b. Provide permanent **Transportation Brokerage Services.** Overall program marketing, transit pass sales and promotion, ridematching, management and biennial administration of surveys regarding employee commute behavior, are all examples of transportation brokerage functions.

Under the "Institutions' Reporting Guidelines", every affected institution is *encouraged* to provide:

a. Transportation Coordination for oversight and management of all aspects of the institution's transportation programs performed by a designated Transportation Coordinator. The Transportation Coordinator sets direction and monitors parking policies. For buildings providing parking, a Parking Management Plan (PMP) is required. The PMP should include policies ranging from the pricing of parking to the allocation of parking spaces.

b. Transportation Brokerage for day-to-day administration of the institution's TSM programs. Overall program marketing, transit pass sales and promotion, ridematching, and biennial administration of surveys regarding employee commute habits are all examples of transportation brokerage functions.

b.iii. Mission Bay TMP and TBS Requirements

Requirements for TMP and TBS in Mission Bay generally follow those established for C-3 districts in the downtown area, but with specific provisions as stated in the Specific Plan.

b.iv. Transportation Management Association (TMA)

The Transportation Management Association of San Francisco was established in 1989. The TMA is an association of building owners and managers that coordinate and facilitate implementation of the TSM programs. Presently there are 65 buildings in the greater downtown area with TSM requirements. About 44 buildings have joined the TMA organization.

B.2. The Transit Impact Development Fee

"The Downtown Transit Impact Development Fee" ordinance was enacted in 1981. Under this ordinance, all new or converted office spaces in the downtown area are required to pay the City a $5.00 fee per square foot, to help defray the cost of providing transit services to accommodate the trips generated as a direct result of the new development over its useful life. New office development creates new work trips, which add to the already heavy utilization of the transportation system in the downtown area during peak periods. Given the lack of slack capacity at those times, the increased ridership must be addressed through increased MUNI service frequencies. In ten years of implementation, the fee has generated approximately $71 million, which are used to partially defray these costs. Appendix 4 contains a copy of this ordinance.

B.3. Other City Ordinances and Initiatives

To improve the transit system and to encourage the use of public transit, and high occupancy vehicles, the following actions have been approved and implemented in the City:

a. A Transit-preferential street program has been established to give priority to transit vehicles where conflicts with auto traffic occur, and to reduce transit delays. In addition, bus-only lanes have been designated (generally for peak periods only) on thirteen streets in the downtown :

4th Street - Berry to King
Bush – Sansome to Battery
Clay Street - Powell to Front
First Street - Market to Howard
Fremont Street - Mission to Market
Geary Street - Kearny to Gough
Market Street - Gough to 5th eastbound
Market Street -8th to 11th westbound
Mission Street - Main to 11th
O'Farrell Street - Franklin to Powell
Post Street - Gough to Grant
Sacramento Street - Drumm to Larkin
Starr King - Gough to Franklin
Stockton Street - Tunnel under Bush St. to Geary
Sutter Street - Sansome to Gough

There is also a transit-commercial southbound lane on Sansome Street between Washington and Bush Streets.

b. Exclusive Rights of Way have been established for cable cars on Powell Street from Market to Ellis, California to Sutter, and the northern half block from Francisco to Bay. For streetcars, exclusive rights of ways are on the M-Ocean View between St. Francis Circle and Junipero Serra; on the N-Judah between 9th and 19th Avenues; on the K-Ingleside between St. Francis Circle and Ocean Avenue; on the J-Church through Dolores Park between 18th and 20th Streets and between 20th and 22nd Street, and on San Jose Avenue between Randall and Tingley. The MUNI Metro Extension, located in the South of Market, will feature exclusive right-of-way for its entire length.

c. In order to increase transit speed, parking is prohibited during peak hours on transit oriented streets with heavy traffic volumes.

d. Bus bulbs have been installed on congested streets such as Polk, Castro and Stockton Streets to improve passenger boarding, and to reduce travel time by eliminating the time needed for buses to pull into and away from the curb at bus stops.

e. Median islands have been installed for use as bus and streetcar stops on Market Street, to better utilize curb space and improve transit operating efficiency.

f. Transit signal pre-emption equipment, consolidation and relocation of transit stops, and increased enforcement of parking regulations to allow buses to move more smoothly are additional measures taken by the City to improve transit system operations.

g. Residential Parking Permit programs in the neighborhoods surrounding institutions and neighborhood commercial districts serve to control and discourage all-day free parking for the employees working in those areas.

h. The Planning Commission adopted a formal policy to allocate a percentage of parking for office buildings in the downtown area to carpool and vanpool parking.

i. For purposes of priority parking, the Mission Bay Plan defines carpools and vanpools as a minimum of three persons per vehicle, compared to the two persons per vehicle generally used in the Bay Area.

j. A 25 percent tax is imposed on all off-street parking fees. This tax significantly increases the cost of parking and therefore discourages travel by single-occupant automobile.

k. With the passage of a 1/2 ¢ sales tax enacted by the City in 1989, funding for many transportation projects and programs has been assured. Sixty percent of the approximately $1 Billion generated by the sales tax over the next 20 years will be allocated to transit projects and programs, eight percent will be used for paratransit, and an additional two percent will fund TSM programs.

l. During September 1993, the City recruited a Commute Coordinator to deal with the transportation needs of the 30,000 employees of the City and County of San Francisco.

m. In 1995, the Department of Parking and Traffic coordinated with Caltrans to provide further HOV lane use incentives by expanding HOV evening hours from 4 to 6 pm to 3:30 to 7 pm. This has resulted in increased carpool use after 6 pm. Carpool drop-off areas are located on Howard St. near Fremont. Low cost ($12/yr.) vanpool parking areas exist along Folsom, Washington, Broadway, Otis and in the Civic Center area (e.g., currently along Van Ness Avenue) and inexpensive carpool parking areas ($21/yr) are located at two hospitals and at 4th and Folsom. The Department is currently testing casual carpool pick-up areas along Beale and Howard

update memo from Jawad. in SAR file

Streets which were created during the September 1997 BART strike.

n. Parking control officers are posted at congested intersections to prevent gridlock during p.m. peak periods. The Department of Parking and Traffic also has in place an aggressive double parking prevention and enforcement program, citing and towing offending vehicles.

4. Housing And Employment Balance

Downtown San Francisco has the largest concentration of commercial activity and employment in the Bay Region. Much of the downtown employment growth occurred in the 1970-79 period. During that time about 100,000 new jobs were created and about 11,300 net new residential units were built in the City. For each 100 new jobs created in the city about 11 net new residential units were built during this period. This attracted many new workers from the region and significantly increased the number of suburban commuters into the City.

During the 1980's the rate of downtown employment growth has decreased. At the same time, compared to the previous decade, more housing units have been built relative to the amount of employment added. This has resulted in fewer commute trips per new job created. During the 1980-1989 period about 14,100 new jobs and 12,250 net new residential units were created in the City. This works out to about 87 net new housing unit built for every 100 new jobs created during this period.

It has also been the City's policy in recent years to promote new housing in conjunction with new developments. Presently there are established housing requirements for new office buildings in the downtown area. Section 313.3 of the Planning Code, the Office/Affordable Housing Production Program (OAHPP) imposes housing requirements for buildings above 25,000 square feet of office space. Under this Section the project sponsor is required to either build housing at a rate of 38.6 units per 100,000 square feet of office, or pay $7.20 per square foot to a housing developer to construct housing, or pay an in-lieu fee to the city-wide Affordable Housing Fund. OAHPP requires 62 percent of the units to be allocated for low or moderate income housing.

Extensive rezonings undertaken in the city during 1980's have also actively promoted new residential development. The Downtown Plan, as well as the plans for Rincon Hill, North of Market, Chinatown, Neighborhood Commercial, Van Ness Avenue, South of Market, and South Beach all have measures to retain and increase residential development. The Mission Bay project alone will add 6,090 new residential units in conjunction with the commercial development.

5. Relationship Of Travel Demand Management Activities To Air Quality Improvement Efforts

A. Transportation Control Measures

Under the California Clean Air Act (CCAA), all regions of the State that do not attain air quality standards fall under one of the following three designations for ozone: moderate, serious, severe, or extreme; and under either of two designations for carbon monoxide: moderate or serious. Timelines for projected attainment of air quality standards are associated with each designation. The Bay Area is considered a serious non-attainment

area. All non-attainment areas classified as serious are required to reduce pollutant emissions by five percent per year. If this is not possible they are to implement all "feasible measures" to reduce emissions. The Bay Area also exceeds State standards for particulate matter, but is not required to meet these standards.

As required by the CCAA, in 1991 the Association of Bay Area Governments (ABAG), the Bay Area Air Quality Management District (BAAQMD) and the Metropolitan Transportation Commission (MTC), jointly prepared the Bay Area Clean Air Plan. In addition to the air quality controls proposed for the Bay Area to reduce the *amount of emissions* per vehicle for each mile driven (known as mobile source controls), there are also measures which seek to reduce the total *number of trips* and miles traveled, better known as Transportation Control Measures (TCM's). The MTC has taken the lead in the region for development of a TCM Plan which responds to both State and Federal air quality requirements. The TCM Plan has been reviewed and revised by the BAAQMD and it is referenced in the Bay Area Clean Air Plan.

The TCM Plan has three major components:

Phase 1: Reasonably available TCMs that are based on existing authority and funding - Implementation by 1997-2000.

Phase 2: Additional mobility, traffic operations and incentive package which requires new legislative authority and funding - Implementation by 2001-2003.

Phase 3: Market based TCMs which also require authorizing legislation, with the exception of parking management - Implementation - beyond 2003.

Local agencies are expected to incorporate these TCMs into planning and implementation for transportation and land use programs. The region, through the MTC, is held responsible for overall progress toward the stated goals. The CMP process provides an opportunity to integrate local planning and programming into the regional air quality planning process.

Appendix VII provides a listing of regional TCMs and discusses how San Francisco's congestion management strategies contribute to, or reinforce these measures. Among the TCMs implemented by San Francisco are parking management and pricing rules, which are considered Phase 3 measures.

B. Regulation 13, Rule 1 (BAAQMD) - San Francisco's Demonstration of Compliance

Under Rule 1 of the BAAQMD's Regulation 13, adopted in December 1992, Bay Area employers with 100 or more employees at a single work site were required to must develop programs that encourage employees to use alternative modes of transportation, such as transit, carpooling, biking, or walking, to reduce drive-alone commuting. The Rule, which affects approximately 4,000 work sites, and about half of all employees in

the Bay Area, established average vehicle ridership (AVR) standards for the region based on the relative density of development and level of available transit service in each subregion. For San Francisco, the 1999 AVR goal was set at 2.5 commuters per private vehicle for the Northeast Quadrant, including downtown; and 1.5 for the rest of the city. In an effort to provide some flexibility to cities that have invested in transportation alternatives in the past, the BAAQMD included a provision allowing a jurisdiction to demonstrate that the 1999 AVR goals are currently met for all affected work sites within its geographic area.

In 1992 the Authority, in conjunction with the Public Utilities Commission (PUC) funded two citywide travel behavior surveys, one focused on randomly selected work sites, and the other one centered on visitor travel behavior. Both surveys were conducted by the Department of City Planning. The work trip survey determined that, on average, San Francisco businesses already exceed the BAAQMD's standards for 1999, a finding that clearly reflects the City's commitment to transit investment over many decades. In light of the survey's results the BAAQMD determined that work sites located in San Francisco would not be subject to Rule 1 through 1995.

In March/May 1995, the Authority funded and conducted the 1995 Citywide Travel Behavior Survey (CTBS). The survey involved participation by more than 60 large employers (100 or more employees per work site), but it also targeted over 150 medium and small-size employers (less than 100 employees per work site) citywide. More than 10,000 responses were received and processed, making the CTBS the most exhaustive database of citywide work-related travel behavior in the City. The information has already been incorporated into the Authority's Travel Analysis Database, and will be used in Strategic Analysis Reports, system performance investigations, and other CMP-related studies.

For the purposes of the Rule, the BAAQMD has divided San Francisco into two zones where Zone 1 is the northeast quadrant of the City including Fisherman's Wharf, Chinatown, North Beach, the financial district, and the south of Market area. The rest of the City is in Zone 2. The results of the 1995 CTBS corroborate once again that Zone 1 continues to comply with the 1999 standards set by Regulation 13, Rule 1. The results indicate that Zone 2 has met the 1997 standards set by the Rule.

The passage of SB 437 (Lewis) by the Legislature in September effectively prohibits the imposition of employer-based trip reduction requirements unless called for in Federal law. This has eliminated the need for further demonstrations of compliance with average vehicle ridership (AVR) standards and other related requirements contained in Regulation 13, Rule 1.

6. Work Program Items - Key Milestones

- Continue to monitor ongoing travel demand management activities by City departments.

THIS PAGE
INTENTIONALLY LEFT BLANK

CHAPTER 7

LAND USE IMPACTS ANALYSIS PROGRAM

Key Topics:

- Legislative Requirements
- Legislative Intent and Application to San Francisco
- Land Use as a Determinant of Transportation Demand
- Institutional Framework for a CMP Land Use Analysis Program
- Relationship To The General Plan and Long-Range Transportation Plan
- Work Program Items - Key Milestones

1. Legislative Requirements

The California Government Code section 65089 (b) (4) requires that Congestion Management Programs (CMPs) include a program to analyze the impacts on regional transportation systems of land use decisions made by local jurisdictions. These analyses must include estimates of the costs associated with mitigating the impacts, and involve the measurement of impacts using performance measures selected for the CMP. The cost estimates are to exclude costs associated with inter-regional travel, and provide credit for public or private contributions to regional transportation system improvements. The legislation specifies that land use analysis programs should be coordinated with California Environmental Quality Act (CEQA) efforts, wherever applicable.

The CMP legislation also requires the San Francisco County Transportation Authority (the Authority), as the Congestion Management Agency to "...develop a uniform database on traffic impacts for use in a countywide transportation computer model..." that will be used "...to determine the quantitative impacts of development on the circulation system... "(California Government Code section 65089 (c)). The legislation specifies that the database must be consistent with the databases and modeling methodology used by regional planning agencies, the Metropolitan Transportation Commission (MTC) and the Association of Bay Area Governments (ABAG). This consistency is critical if San Francisco is to remain in compliance with the CMP and eligible for several significant sources of transportation project funding.

The Authority's Transportation Analysis Database (TAD) including ABAG Projections data, updated CMP networks and numerous other data items (such as roadway level of service, transit ridership, travel behavior survey results, etc.) constitutes the "uniform database" for San Francisco. In addition, as part of the long-range countywide transportation plan process, the Authority ~~will be~~ is developing a new, four-step computerized travel demand forecasting model, to be used in combination with the uniform database. This is further detailed in Chapter 10.

2. Legislative Intent and Application to San Francisco

The intent of the legislative requirement for a CMP-based land use analysis program is to establish a direct connection between land development decisions and proposed improvements to the regional transportation system. This connection already exists at the regional level in MTC's Regional Transportation Plan, which links long-range planning for transportation investment with estimates of land development based on

regional demographic growth and economic development. At the local level this connection will be made through the CMP Land Use Impacts Analysis Program, which involves the following components:

a) a countywide Transportation Plan with a long range horizon (20 years), which will identify specific and categorical priorities for funding of transportation projects in San Francisco, and will be consistent with, and informed by, the General Plan and all of its pertinent elements and policies.

b) the Capital Improvement Program of the CMP (see Chapter 8) which, is a 7-year programming document, to serve as the implementation mechanism for the priorities established in the long range Transportation Plan; and

c) the set of existing local regulations including specific plans, fees and mitigation measures designed to address project-specific transportation impacts within the policy and priority framework of the General Plan, the long range Transportation Plan and the Capital Improvement Program of the CMP, described in a) and b) above.

The City already has in place an exacting process for evaluating the transportation impacts of land development proposals. This process, which ensures the City's compliance with state and federal environmental review requirements, is the responsibility of the Planning Department. The technical guidelines that address this process in detail are included in Appendix V. One key aspect of the CMP approach to land use impacts analysis is that, pursuant to state law, the Authority will also be responsible for reviewing and determining consistency of any sub-area models with the citywide model.

The primary purpose of the land use analysis program is, therefore, to inform decisions on the supply of transportation infrastructure to the City. This program adds no new requirements to the existing local project environmental review process, but it provides a long-term transportation investment policy context for local environmental review information.

NOTE:
California Government Code Section 65089(b)(4) requires the land use program to assess the impacts of land development on (regional transportation systems. In the 1991 San Francisco CMP this was interpreted to mean impacts on the CMP roadway network. However, the federal Intermodal Surface Transportation Efficiency Act (ISTEA), passed in 1991, explicitly requires the development of a metropolitan transportation system (MTS), including both transit and highways. The Metropolitan Transportation Commission has contracted with the San Francisco County Transportation Authority, acting as Congestion Management Agency to help develop the MTS and to use the CMP process to link land development decisions to impacts on the MTS. For purposes of the land use analysis program, the San Francisco CMP will use the San Francisco component of the MTS, but conformance with roadway level of service (LOS) standards will continue to be assessed using the CMP roadway network, which is a subset of the MTS.

3. Land Use as a Determinant of Transportation Demand

This section provides background on land use trends and their influence on transportation demand in the City. San Francisco established itself as the region's central city during the Gold Rush era. It has retained its role as the most concentrated center of employment as the region has evolved. San Francisco's peninsular location and small size, approximately 49 square miles, have resulted in a close relationship between the City's development patterns and its transportation network. There have been significant numbers of suburban commuters into the City for over a century. San Francisco has been able to maintain one of the highest levels of transit

use among U.S. cities because of its relatively high-density development, and because topography and geography limited vehicular access routes to and from the City.

In recent decades, an increasing amount of population and employment growth has occurred throughout the region. Back office, manufacturing, wholesale trade, warehousing, and general retail employment has grown faster in the East Bay and South Bay than in the City. However, San Francisco has remained the region's dominant employment center for middle and upper level office and administrative functions, specialty retail, and other jobs dependent upon direct transactional activities. San Francisco's daytime population is about 1.1 million, compared with a resident population of about 760,000, and about half of its 535,000 jobs are filled by suburban commuters. Transit and ridesharing currently account for about 45 percent and 15 percent respectively of all commuter travel in the San Francisco downtown office district, which contrast with about 10 percent transit use and 13 percent ridesharing for the entire Bay Area region.

During the 1980s, San Francisco actively promoted new residential development. Extensive revisions to the City's General Plan and rezonings were undertaken. Each of these land use plans - the Downtown Plan, Rincon Hill, North of Market, Chinatown, Neighborhood Commercial, Van Ness Avenue, South of Market, and Mission Bay - incorporated measures to retain and enhance opportunities for residential development. In addition, housing development has been promoted by the policies of the San Francisco Redevelopment Agency in the Rincon Point/South Beach, Yerba Buena Center, Transbay and the Western Addition Redevelopment Plan Areas.

In the past two years the City has succeeded in revitalizing a re-scoped Mission Bay project, as well as plans for a new UCSF campus in that area. The new 3rd Street Light Rail Transit line (now at the environmental review stage), and the MUNI Metro extension (recently completed) provide the ideal transportation complement to these projects, and ensure that transit will continue to address a large share of transportation needs in this key growth area in the city.

San Francisco's continued role as a regional employment center and its continued policy of housing development have had an impact on the demand for transportation in the City. A primary mission of the Authority is to strategize investment in the city's transportation infrastructure to meet this demand. Infrastructure investment is intended to both address future growth in transportation demand and improve the city's current transportation system.

The Authority must approach this mission with extremely limited local, state and federal funding. The setting of priorities and allocation of these transportation funds requires a long-term assessment of demand for transit and roadway capacity. The Authority's Land Use Impact Analysis Program is intended to evaluate the overall demand generated by land use changes and propose appropriate investment strategies.

4. Institutional Framework for a CMP Land Use Analysis Program

Since San Francisco's approach to conformance with the CMP's land use impacts analysis requirements is based on the existing process administered by the Planning Department, it is important to describe the existing land use analysis process and institutional roles.

PTD

4.1. Agency Responsibilities

This section describes the institutional parameters that frame the City's process for reviewing land development impacts on the transportation network. San Francisco is a Charter City and it has a consolidated city and county government. An eleven-member Board of Supervisors serves as the legislative body for the City's unified city and county government. The City Planning Commission (CPC) has responsibility for land use decision-making throughout the City. The seven members of the CPC are appointed by the Mayor. Among the responsibilities of the CPC are the following:

- Exclusive authority to act on General Plan policies and area land use plans (per City Charter);
- Holding public hearings on all appeals to Negative Declaration determinations and certification of all local Environmental Impact Reports;
- Discretionary actions on Conditional Use permits. (which can be appealed to the Board of Supervisors) and decisions by the Zoning Administrator, Discretionary Reviews and others that can be appealed to the Board of Appeals.

In addition, all subdivisions of five or more lots and all rezonings must be approved by both the CPC and the Board of Supervisors.

City departments involved in transportation activities are: the Department of City Planning, which has primary responsibility for assessment of the transportation impacts of development proposals, to determine consistency with land use and transportation policies in the General Plan, and for coordination with other City departments which provide transportation services; the Municipal Railway, which operates an extensive streetcar, cable car, trolley coach, and diesel bus transit network within San Francisco; the Department of Parking and Traffic, which was created in July 1990 to manage City off-street and on-street parking, parking enforcement, and traffic engineering activities consistent with the City's Transit First policies; and the Department of Public Works (DPW), which has retained responsibility for street cleaning, maintenance, repair, and contract management affecting street and infrastructure. DPW also includes Waterfront Transportation Projects and is currently coordinating the construction of waterfront projects, including the new Embarcadero Roadway ~~and the Terminal Separator~~. Each of these departments are integral parts of the City's governmental structure, and all ultimately report to the Mayor and the Board of Supervisors. Another entity influencing transportation and land use in the city is the Redevelopment Agency.

The San Francisco County Transportation Authority was established as an independent agency to administer Proposition B, the funding program generated from passage of a new one-half cent sales tax for transit, roadway, bicycle and pedestrian projects. All members of the San Francisco Board of Supervisors serve on the Authority Board of Commissioners. The Authority has also been designated as the local Congestion Management Agency (CMA) for San Francisco. Pursuant to this designation, the Authority has duties and responsibilities to ensure that the City complies with state-mandated CMP requirements. Such responsibilities include, among others, the development of a methodology for land use impacts, and the creation of a uniform database for land use impacts analysis. For a detailed discussion of the genesis, roles and responsibilities of the Authority, please refer to Chapter 2.

4.2. Relationship to the General Plan

The General Plan is the transportation and land use policy "blueprint" for San Francisco. As a policy level document, the General Plan spells out the ultimate goals of the transportation planning process. Other General Plan elements also contain policy guidance directly or indirectly affecting transportation outcomes. The Authority, working within the General Plan framework, must strategize investments to optimize transportation infrastructure supply. This is necessary because the demand for transportation funding typically outstrips available funding by a 3 to 1 ratio.

The Authority's investment strategy must reconcile the General Plan goals and Long Range Transportation Plan priorities with the changing picture of regional, state, and federal transportation funding policies. In determining the pace and priority of transportation improvements, the Authority takes into account City departments' individual priority lists and also considers the transportation implications of major land use trends.

4.3. The Relationship to the Long Range Countywide Transportation Plan

AB 1619, passed by the Assembly in 1994, is enabling legislation which stipulates that, if a long-range countywide transportation plan is prepared, it must be done by the CMA. Pursuant to a Board of Supervisors action of December 1994, the Authority is responsible for preparation of such a plan, and for coordination of roles and responsibilities with City Departments. A Memorandum of Agreement (MOA), executed in December 1997, between the Authority and the Planning Department, clearly outlines roles and responsibilities for developing the plan.

In April 1997, the Authority approved funds for development of the plan, which is expected to begin in February 1998.

As with the relationship between the CIP and the long-range Transportation Plan, land use analysis will also directly inform the strategy for long-term investments in transportation infrastructure. The difference is that the CIP is a 7-year document focused on near-term implementation, and the long range transportation plan will set out a 20-year vision for transportation priorities and funding.

The periodic updates of the long-range plan and its list of investment priorities with be the main vehicle for addressing the transportation needs generated by land use changes in the city. In updating the long-range plan the Authority will use land use forecasts developed by the Planning Department (subject to regional requirements for consistency with ABAG), generate new estimates of future travel demand, and test alternative projects and investment strategies to address those future transportation needs. The detailed methodology for accomplishing this will be outlined as part of the process of development of the long-range plan.

5. Work Program Items - Key Milestones

The Authority will continue to work jointly with City departments and regional agencies, as part of development of the long range Transportation Plan, on the detailed methodology for analysis of alternative land use and investment scenarios. This methodology is expected to be finalized concurrently with the long-range Plan, in about 18 months. In addition, the Authority will:

- Review MTC regional model transportation network assumptions (for current, 5 and 10 year future scenarios), including transit service levels, and recommend changes, in consultation with City departments, to reconcile with the CIP and expected project delivery schedules - ~~By June 1998~~ early 2000 (tied to CWTP schedule)
- Continue to develop applications of land use data within the TAD to multimodal performance measurement (e.g., the relationship of land use patterns to transit routing and coverage) -- Ongoing

CHAPTER 8

Capital Improvement Program

Key Topics:

- Legislative Requirements
- Legislative Intent and Application to San Francisco
- Transportation Investment and System Performance
- CIP Components
- Relationship to Other Plans and Programming Documents
- The Authority's Capital Priorities Programming Process
- CIP Review and Amendment Procedures
- Program Overview
  - Transit Program
  - Roadway Program
  - Waterborne Program
  - Bicycle and Pedestrian Program

BACKGROUND

1. Legislative Requirements

California Government Code 65089(b)(5) requires that the CMP contain a seven-year Capital Improvement Program (CIP), developed by the CMA, to maintain or improve the traffic LOS and transit performance measures established in the CMP, and to address impacts on the regional network, as identified through the land use impact analysis program. Capital improvement projects must conform to air quality mitigation measures for transportation-related vehicle emissions, as detailed in the Bay Area Air Quality Management District's 1997 Clean Air Plan.

2. Legislative Intent and Application to San Francisco

The CMP legislation was formulated around a relatively simple concept: future transportation needs would be estimated through the land use analysis program, curbed to some degree through actions in the trip reduction element, and otherwise addressed through a fund programming mechanism to supply new transportation projects and services. That mechanism is the Capital Improvement Program (CIP), which ensures the steady supply of transportation improvements needed to at the same time accommodate land development and prevent congestion from worsening. The legislation defines the CIP as a seven-year program. This makes it a medium-range programming tool, clearly not intended to replace long-range plans, but rather to provide a vehicle for implementation of improvements consistent with long-range policies.

The CIP is intended to address future problems anticipated through land use impacts analysis, rather than to react to problems already observed. The provision for deficiency plans (see Chapter 9) supports the notion that the CIP is meant to anticipate problems: deficiency plans are allowed only in cases where the CIP could not keep up with the growth of congestion in a roadway facility, and it is no longer feasible (physically or financially) to fix the problem in that facility, so improvements on other facilities are required instead.

The emphasis in CMP legislation is on expeditious delivery of transportation projects where needed. The CIP must ensure that

improvements will be on the ground when needed, in order to prevent worsening of congestion. However, because of peculiarities of the funding process, new projects get programmed in the outer two years of each seven-year CIP. This makes it difficult for the CIP to immediately address newly identified needs. In order to be effective, the CIP must at the same time function as a transportation project *delivery* mechanism and as a programming framework, including a re-programming feedback loop, to ensure that changes are incorporated promptly, and that the information is always current. This kind of flexibility is essential to deal with San Francisco's complex and dynamic transportation funding program. The legislation does not provide guidance as to whether the 7-year period alluded to in the context of the CIP is a programming period or a project delivery period. The fact that programming transportation funds through the State Transportation Improvement Program (STIP) also followed a 7-year cycle at the time the CMP legislation was developed gives weight to the interpretation that the CIP's 7-year period is a programming horizon. It is clear, however, that the effectiveness of the CIP (i.e., its impact on system performance) must be evaluated against the anticipated timelines for actual delivery (i.e., completion) of transportation projects and services. For projects programmed in the second half of the 7-year CIP, those delivery timelines will likely extend beyond the 7-year programming period.

3. Transportation Investment and System Performance

One of the key purposes of the CMP, as reflected by the legislation, is to establish a link between transportation investment and system performance. In fact, the 9-cent-per-gallon state fuel tax increase became politically viable in 1989 only after it was coupled with a requirement for congestion management programs. This was the Legislature's way to reassure Californians that the new revenues would be spent in ways that would make a tangible difference in people's level of mobility. Specifically, the legislation established the requirement for a 7-year Capital Improvement Program clearly intended to help maintain or improve operating conditions on the transportation system.

Furthermore, state law establishes that if the CMA finds a local jurisdiction to be in non-conformance with the CMP, the State Controller must withhold revenues from the 9-cent per gallon gas tax increase (Sections 65089.5 (b)(1) and 65089.2 (c)(1)), and the MTC cannot program (federal) Surface Transportation Program funds or Congestion Mitigation and Air Quality funds to transportation projects in that jurisdiction. With this requirement, the emphasis on system performance is effectively linked to the power of the purse: while transportation investment can be used to address a number of goals, such as community redevelopment, urban beautification, safety, and the like, the CMP *must* focus on transportation system performance, and the CIP must identify improvements that maintain or improve system performance, or the county risks a finding of non-conformance and potential loss of transportation funding.

The changes to CMP law introduced by AB 1963 in 1994 further emphasized the focus of the CMP on performance by mandating a new "Performance Element", which replaced the Transit Element. Reaching beyond the roadway-oriented approach of the original CMP language, AB1963 calls for a Performance Element that addresses a *multimodal* system which is concerned with transit, shared ride, bicycle, pedestrian and other types of trips in addition to trips by single-occupant automobile. (For more details on this topic, please see Chapter 5.) In particular, section 65089(b)(2) explicitly

requires that multimodal performance measures developed as part of the Performance Element be used to inform the decisions about the composition of the CIP.

To be sure, the CIP is not the only factor affecting system performance. Other key factors influencing the performance of San Francisco's multimodal CMP network are: land use decisions, trip reduction programs, and system operations decisions. Land use decisions and trip reduction programs affect the *demand* for transportation: development decisions result in new trips or in changes in trip patterns, and trip reduction programs hopefully result in elimination of some single-occupant automobile trips and in changes in travel behavior which affect the level and patterns of utilization of the transportation system. But the CIP is a key determinant of system performance because it can directly affect the *supply* of transportation infrastructure in the city. Because the CMP network's performance standards are predicated upon the implementation of the projects in the CIP, any proposed changes to the CIP must first be evaluated to estimate their impacts on expected system performance, to ensure that the established performance standards are maintained and that San Francisco remains in conformance with the CMP.

Chapter 5, the Multimodal Performance Element, guides the establishment of multimodal system performance standards and describes procedures for evaluating the performance of system components. This chapter includes roadway LOS monitoring and standards.

CIP CONTENTS AND CONTEXT

4. CIP Components

In order to satisfy the new requirements in state law, as described above, the CIP is redefined to contain the following components:

a) All projects and /or expenditures included in the 1991, 1993 and 1995 CMP CIPs, as amended or modified in the 1997 CMP.

b) All transportation projects and/or expenditures programmed for projects in San Francisco in the State Transportation Improvement Program (STIP), in addition to those in (a) above.

c) All transportation projects and/or expenditures programmed for San Francisco projects in the federal Transportation Improvement Program (TIP), in addition to those in (a) above.

d) All projects contained in the 1997 Proposition B Strategic Plan, and in subsequent amendments and updates.

e) All projects in the Transportation Fund for Clean Air (TFCA) program for San Francisco which were programmed by the Authority as part of the 40% discretionary portion of that program.

Items b and c above include projects located in San Francisco, but sponsored by entities not directly within the City's jurisdiction such as BART and Caltrans.

Appendix VIII contains a detailed cost/funding matrix for each project currently in the CIP. Please refer to Section 6.2 for a description of

the cost/funding matrices. In addition, Appendix VIII contains an Active Project Delivery Schedule for all CIP projects which do not receive Prop. B funding. The schedule shows dates for major project milestones, such as completion of preliminary specifications & estimates and construction. It is intended to be a tool to assist the Authority in tracking project delivery through the CIP. As administrator of the Prop. B revenues, the Authority already has a mechanism in place for tracking Prop. B project delivery (i.e. the Strategic Plan and ongoing project management oversight activities) so those projects are not included in the table in Appendix VIII. Further discussion on project delivery methods For a detailed discussion of the Authority's process for review and approval of CIP changes, please refer to Section 7: CIP Review and Amendment Procedures. are in Section 8. Project Delivery

5. Relationship to Other Plans and Programming Documents

5.1. Relationship to the Countywide Long-Range Transportation Plan

The CIP is the most significant implementation tool of the CMP. Pursuant to State law, in order to be included in the Regional Transportation Improvement Program, and therefore be eligible to receive state and federal funds, a project must first be included in the CIP. In addition, the CIP is a 7-year document, designed to ensure the delivery of transportation projects needed to maintain system performance. The CIP is intended to serve as a short or medium-range implementation vehicle for a longer range list of priority projects, such as would be provided by a long-range countywide transportation plan.

Currently there is no long-range countywide transportation plan for San Francisco. The City's General Plan includes a Transportation Element, updated in July 1995, which contains 40 general objectives and 200 associated policies. In April 1997, the Authority Board approved funding for the development of a long-range plan which would look at the potential impacts of those policies, address trade-offs between them, establish priorities, and develop a specific list of investments to implement the prioritized policies. Under state law, the Authority, as CMA, is responsible for the preparation of the long-range countywide transportation plan. The plan's action element will include a list of specific investment priorities (i.e., transportation projects and services). By following that list, the CIP will then become the main implementation tool for the countywide transportation plan. Until a countywide plan is developed, the Authority will continue to develop the CIP project priorities based on its analysis of need, system performance, and programming and funding strategy.

This section will be revised as new

5.2. Relationship to the Proposition B Strategic Plan

Proposition B is the half-cent local sales tax for transportation, approved by San Francisco voters in 1989. Prop. B, as presented to the voters, includes an Expenditure Plan detailing specific projects which are eligible for the new sales tax revenues. The Proposition will be in place for 20 years from the date of inception. It is expected to generate close to $1 billion for transportation projects in San Francisco. The significance of these revenues is that they are used, in part, to provide the matching funds required to attract state and federal dollars. Depending on the funding program, the proportion may be as low as 11.5% local to 88.5% federal. This is the "leveraging" effect of the Prop. B dollars. In addition, some Prop. B revenues are used to pay entirely for certain projects which are of local

interest but do not compete well for state or federal funding.

The Prop. B Expenditure Plan did not earmark all transportation sales tax revenues to specific projects. Rather, it established four categories of investment and attached mandatory percentage shares of total Prop B revenues, as shown below:

Transit	60%
Streets & Traffic Safety	30%
Paratransit	8%
Transportation Systems Management (TSM)	2%

In order to achieve these goals while maximizing San Francisco's ability to leverage state and federal dollars, the Authority developed the first Prop. B Strategic Plan in 1993, and updated it in 1995 and 1997. The Strategic Plan established a requirement for 5-year investment plans from City Departments requesting Prop. B funding for their projects. This requirement is intended to provide the Authority with an accurate picture of anticipated transportation funding needs, which are then reconciled with expected revenues to arrive at the most favorable financial strategy for San Francisco's transportation program.

While the 9-year Prop. B Strategic Plan is designed to identify the best possible funding and financing strategy for San Francisco's transportation program, and while the Departments 5-year plans are designed to provide a picture of investment need in each transportation area (transit, roads, etc.), the CIP, because of its focus on system performance, serves as a framework for analysis of trade offs among proposed transportation projects which receive Proposition B and other funds. Beyond the analysis of funding feasibility or financial strategy, *the CIP ensures that the proposed investments will result in tangible improvements in mobility* for people using San Francisco's multimodal transportation system. The CMP's overriding emphasis on mobility improvement may from time to time trigger adjustments to the Prop. B Strategic Plan.

5.3. Relationship to the RTP

The Authority, as CMA, provides input to the Metropolitan Transportation Commission (MTC) for the periodic updates of the Regional Transportation Plan (RTP). State law provides that where countywide transportation plans have been developed, they will be used by MTC as a basis for RTP assumptions for that county. In the absence of a long range countywide plan, the CIP, complemented by the Proposition B Strategic Plan, serves as a main indicator of transportation investment priority trends in San Francisco.

5.4. Relationship to the RTIP

Pursuant to state law, the CIP list of projects is used by MTC in compiling the biennial Regional Transportation Improvement Program (RTIP), which in turn feeds into the State Transportation Improvement Program (STIP) and the Federal Transportation Improvement Program (TIP). Under state law, projects proposed for funding through specific federal sources programmed through the STIP/TIP must first be included in the CMP's Capital Improvement Program.

5.5. Relationship to the San Francisco General Plan

The San Francisco City Charter assigns responsibility to the Planning Department for consistency review of capital improvements with the General Plan. This consistency review function is incorporated into the Authority's programming process as described in Section 6 below. The Planning

Department, in consultation with the Authority, will develop specific criteria for the review of the Draft CIP list's consistency with the General Plan. In order to be used in the 2000 TIP programming cycle, these criteria and procedures must be in place by May 1999. Auth. will work w/ DCP to establish a timeline for the task

5.6. Relationship to City Department Activities

The changes in the programming introduced by the 1995 CMP, as explained in this chapter, do not substantially alter programming-related activities currently performed by City departments. The goal of the process is, in fact, to streamline the programming process so that complete and timely information is available to the Authority Board, to provide a well defined context that facilitates strategic programming policy decisions.

It is important to note, for example, that individual City departments will continue to develop their own capital investment plans. The Authority's intent is not to suggest changes to the priorities within those plans, but rather to steer the overall programming strategy and analysis of trade-offs.

The Authority review process, as explained in the following sections, provides the required structure to analyze programming and performance data that will inform those Authority Board decisions. It is important to note that the process is intended to function using information already developed by city Departments, and that except as requested by the Authority Board, no new information will be required.

The most significant value added by the Authority's review process is in providing an overall context for programming strategy and system performance, to facilitate Authority Board decisions.

Exhibit 8-A provides a summary of key roles and responsibilities of the Authority and City Departments in the transportation programming process.

5.7 Relationship to Short Range Transit Plans

In addition to MUNI, five regional transit operators serve San Francisco: BART, AC Transit, SamTrans, Golden Gate Transit, and Caltrain. The Short Range Transit Plans (SRTPs) developed by these operators are the basis for their programming requests to the Authority for inclusion in the San Francisco CIP.

The Authority uses the SRTPs as an input into its programming process, to ensure better coordination of San Francisco programming decisions with regional priorities.

PROCESS AND PROCEDURES

6. The Authority's Capital Priorities Programming Process

Figure 8-1 describes the Authority's Capital Priorities Programming Process. Because of the Authority's combined role as Prop. B administrator and CMA, this process, though focused on funds that are required by state law to be programmed through the CMP (i.e., state and federal dollars), also incorporates Prop. B strategy.

The process starts with an evaluation of transportation demand or need, as evidenced by two general categories of information: programming requests from City Departments and other transportation agencies; and data about expected travel patterns and monitoring of system performance. At the center of this evaluation are the CMP's multimodal system performance standards, which provide

Exhibit 8-A

Transportation Programming Roles and Responsibilities

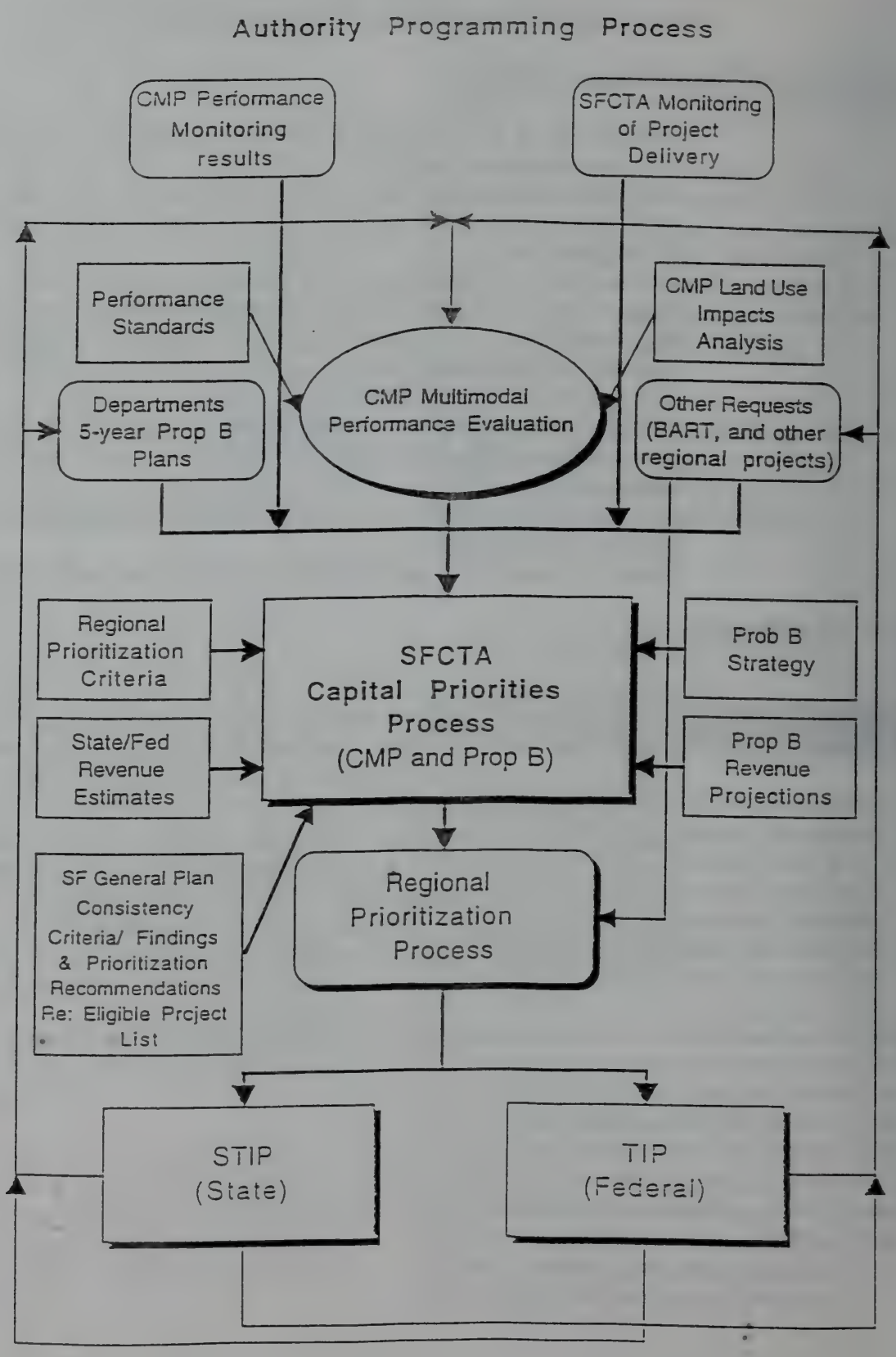
A. City Departments

1. Prepare plans, prioritize capital improvement programs and financial plans on an annual basis
2. Use financial constraints and strategies imposed by external agencies plus those agreed to by the Authority and Departments for various funding sources
3. Revise financial plans at regular intervals, to reflect changes in project scope, budget or schedule, and changes in funding projections
4. Process CIP Amendments through the Authority, and obtain Authority Board approval or administrative review before submittal of new information to outside agencies
5. Check eligible project list consistency with the San Francisco General Plan before adoption by Authority Board. (Performed by the Planning Department)
6. Make prioritization recommendations at the time of eligible project consistency review.
7. Planning Department assessment of priorities based on the General Plan

B. Authority

1. Develop, adopt and update the CMP and its CIP
2. Process CIP Amendments according to the established procedures
3. Input into the MTC, and state and federal agencies process for the preparation and updates of the Regional, State and Federal Transportation Improvement Programs (RTIP, STIP and TIP).
4. Provide Prop. B revenue estimates and advise on financial strategies
5. Develop Strategic Plan updates to respond to revisions in Department capital and financial plans and to reflect CIP Amendment decisions
6. Notify outside programming agencies of decisions on CIP Amendments
7. Program the local (40%) portion of the TFCA funds

Figure 8-1


Authority Programming Process
CMP Performance Monitoring results
SFCTA Monitoring of Project Delivery
Performance Standards
CMP Land Use Impacts Analysis
CMP Multimodal Performance Evaluation
Departments 5-year Prop B Plans
Other Requests (BART, and other regional projects)
Regional Prioritization Criteria
SFCTA Capital Priorities Process (CMP and Prop B)
Prob B Strategy
State/Fed Revenue Estimates
Prop B Revenue Projections
SF General Plan Consistency Criteria/ Findings & Prioritization Recommendations Re: Eligible Project List
Regional Prioritization Process
STIP (State)
TIP (Federal)

guidance on what constitutes an acceptable level of mobility, for example: should the level of service on the roadway network be set at "E" (congested) or at "B" (almost free-flow), or should transit service headways be 20 minutes or 5 minutes.

The multimodal performance standards are a *policy* decision, arrived at by weighing what kinds and amounts of transportation we would *like* against how much of it we can *afford*, and against other competing policy objectives (such as air quality or other environmental or community impacts). This requires coordination with General Plan goals and objectives and it necessitates periodic consultation with MUNI and other transit providers serving San Francisco, to ensure that the established standards are realistic and can be met. The Authority's Capital Priorities process takes into account those standards, as well as current information from the Authority's own monitoring of project delivery (to further understand potential impacts on system performance), and draws up a list of transportation investment priorities that considers Prop. B financing strategy, regional prioritization criteria (to ensure that San Francisco projects will compete well for state and federal funds), and adjusts the list to revenue projections for Prop. B and state and federal funding sources. The result is the recommended CIP list, which is adopted by the Authority Board and submitted to MTC.

The CIP list then enters the regional prioritization process, where San Francisco projects compete with projects from the other eight Bay Area counties for state and federal funds. The result of this process is a final regional priorities list, which is adopted as part of the Regional Transportation Improvement Program (RTIP) which, in turn, becomes the basis for the State Transportation Improvement Program (STIP) and for the federal Transportation Improvement Program (TIP) for California. San Francisco projects included in the STIP and TIP will then be ready to receive state and federal funds. It must be noted that the programming of projects considered regional, such as certain BART projects, can be initiated at the regional level (MTC).

At this point, there is an important feedback loop that takes place as part of the Authority's programming process. Programming documents and performance standards will need to be adjusted to reflect the projects that did *not* receive funding. For example, if a project in MUNI's Short Range Transit Plan (SRTP) does not receive federal funds, it may become infeasible, or it may require a change in the Authority's Strategic Plan to devote more Prop. B funds to close the gap left by the lack of federal funds, and it may require re-prioritization or rescheduling of other MUNI projects to ensure that system performance is maintained. On a broader scale, it may require revisiting General Plan policies as well. This feedback loop is therefore an essential step to reconcile transportation investment and transportation system performance.

6.1. CIP Development - Schedule

6.1.1. Programming of CMP-Based Funds

For funding sources subject to programming through the CMP by state law, the CIP development process follows the biennial CMP cycle. Pursuant to regional agreements, development of the CIP is ideally tied to the development of the STIP and the TIP. It starts with a call for projects, issued by the Authority, as CMA, around September/October of the first year of the cycle.

Project sponsors submit applications in the regionally developed standard format for state Regional Improvement Funds (RIF) and federal STP and CMAQ funds. Project sponsors are responsible for scoring their proposed projects according to the rules detailed in the application packet. Project sponsors typically have about two months to complete this step. The Authority screens all projects for eligibility, checks project scores, reconciles funding assumptions with the Prop. B Strategic Plan, develops a draft eligible project list for San Francisco. At this point the list is submitted to the Planning Department for a consistency check with the General Plan. The Authority has approximately one month to complete its review (including General Plan consistency input from the Planning Department and evaluation of system performance), adopt the prioritized draft CIP list, and submit it to MTC for the regional competitive process. After clarification is sought from project sponsors on any project details affecting scores, a draft regional list is developed in June and adopted by MTC in July of the following year. The state and federal approval of the TIP happens in September/October.

The final list for San Francisco is adopted by the Authority Board, and it becomes the final CIP list for the biennial CMP cycle. CMP updates, addressing not just the CIP but the entire CMP document, as necessary, are also adopted in October/November of the second year of each biennial cycle.

6.1.2. Programming of Other Funds

The programming process described above does not include all funding sources available for transportation projects in San Francisco. Below is a description of the programming process for the main sources not covered in section 6.

Because of the implications for the overall transportation programming strategy for San Francisco, programming applications for these sources will require review and concurrence consistent with the procedures described in section 7 below.

a. **FTA Funds:** These are funds that are specifically designated for transit projects as set forth in the Federal Trasit Act Amendments of 1991 (the "Act"). Sections 3 (Fixed Guideway) and 9 provide for formula-based block grant programs based on population, population density, and level of transit service. Section 3 funds are programmed for capital projects only, while Section 9 funds are available for both capital and operating assistance. Section 3 also contains discretionary capital grant programs for bus equipment and facilities, and for new rail starts. Required matching funds for these programs come from various state, regional and local sources (most importantly Proposition B).

In the Bay Area, FTA funding is programmed through a process established by the Metropolitan Transportation Commission. MTC Resolution 2553 spells out the rules by which transit operators in the region make programming applications which are then ranked in a regional master list, by funding source.

b. **Proposition B Funds:** These are the half-cent sales tax revenues collected for specific transportation expenditures in San Francisco. The Authority administers this process through the development of a Strategic Plan for the commitment of Prop B funds. The Strategic Plan contains a nine-year projection of the likely commitment of sales tax funds, and it includes projections of the expected regional, state, and federal transportation funds, which are used to estimate the commitment of Prop B (local) matching share. The Strategic Plan is updated biennially, and it may need to be

amended if significant discrepancies appear between what was originally programmed in the Plan, and the actual level of Prop. B project funding requested at any given time. The Plan is based on information contained in departmental transportation capital plans submitted to the Authority on an annual basis, as reflected in individual cost/funding matrices prepared for each project as part of the Strategic Plan update. These capital plans provide information not only about the anticipated demand for Prop. B funds, but also about preliminary programming of other local funds. The second update of the Strategic Plan was adopted by the Authority in December 1997.

6.2 Documentation of Project Programming Status: Cost/Funding Matrices

For every project included in the CIP according to the criteria discussed in Section 4 above, there will be a separate cost/funding matrix including project name, project identification number, a detail of specific project costs covering the following specific cost categories:

- Planning
- Environmental
- Design
- ROW Acquisition
- Procurement
- Construction
- Contingency
- Incremental O&M Costs

and a detail of funds programmed to that project by year of programming and by funding source. Cost/funding matrices for all projects in the CIP are included in Appendix VIII. Any changes to current programming status information affecting one or more projects will trigger the development of a new cost/funding matrix for the affected projects. All cost/funding matrices will be stored in the Authority's computerized Programming Information Management System (PIMS). The data contained in the PIMS will be updated to reflect programming changes every time they are approved through the CIP Amendment process described in Section 7 below, as well as after adoption by the Authority board of periodic updates of the Proposition B Strategic Plan.

7. CIP Review and Amendment Procedures

Changes to the CIP project list, that need to be processed outside the biennial CMP updates, are subject to administrative review and in some cases must be approved by the Authority Board through CIP Amendments.

7.1. Applicability

The previous sections describe the central role of the CMP in establishing standards and measuring or otherwise assessing the performance of the multimodal transportation system, and the role of the CIP in helping to maintain that level of performance. Any proposed changes to projects included in the CIP must therefore first be assessed by the Authority, for potential effects on the performance of the multimodal transportation system. This requirement applies to changes in the scope, schedule, or programming package for all CIP components, as described in Section 4:*CIP Components*. Because project viability can be affected by changes in any component of its funding package, the requirement for Authority review applies to all funding components of CIP projects, whether they are directly programmed by the Authority or not.

The Authority's review process applies not just to proposed programming changes to the CIP, but also to initial programming applications for funds not directly administered by the Authority, but which are part of the CIP (see Section 4). Note that this requirement applies to the programming of funds, not to applications for receipt of already programmed funds (also known as *grant applications*). This is true unless the grant application introduces changes in programming.

7.2. Kinds of Amendments

There are two kinds of CIP Amendments: policy level and administrative level.

7.2.1. Policy-level CIP Amendments

These apply to changes that are deemed by the Authority to be significant enough that they have the potential to affect the performance of the multimodal transportation system.

Policy-level CIP Amendments are required for all programming or schedule changes to CIP projects where the change will affect the scope of the project, or the year of delivery (completion) of the project, or the amount or availability of operating funds for that project, or the year of programming of Authority-programmed funds for that project, or the fund source designation or any other aspect of the funding packet requiring action by the Metropolitan Transportation Commission (MTC), or the California Transportation Commission. See exceptions to this under 7.2.2 below.

Policy level CIP Amendments require approval by the Authority Board prior to processing of the change by the implementing department. The requirement for policy level CIP Amendments will apply to all pertinent actions (as noted above) for at least the following funding sources: STP, CMAQ, FCR, RIF, State TSM, FTA Sections 3 and 9, State Rail Bonds (Props. 108 and 116), and Emergency Relief Funds.

7.2.2. Administrative Level CIP Amendments

These apply mostly to programming changes which can alter the overall transportation programming strategy for San Francisco, even though their individual effects on system performance may only be very marginal. Such programming changes will trigger the need for administrative level CIP review even if they are not tied to a specific project listed in the CIP, as long as they affect San Francisco's share of a transportation funding source listed in the CIP.

Administrative level CIP Amendments will only require notification to, and concurrent review by the Authority's Executive Director. The purpose of this requirement is to ensure that the Authority has the required information to evaluate programming strategy and the performance of CIP projects in the context of the entire universe of programming and project delivery decisions in San Francisco. Administrative level CIP Amendments may involve any of the following funding sources:

Federal: TEA

State: TCI and SHOPP

Regional: Measure 1 and AB 664, STA, TDA, TFCA

Local: SFMRIC, TIDF, TFCA

In addition, proposed changes to Prop. B programming will automatically trigger administrative-level review and, at the

Executive Director's discretion, may require policy level CIP Amendments.

7.2.3. Sources not Covered By CIP Amendments

Certain funding sources, such as HES, are programmed through state or regional processes. Typically, the funds become available to City project sponsors through a separate application procedure. In some cases, the funds are allocated on a first-come, first-served basis, so that the ability of City departments to act quickly is crucial. For funding sources in this category (listed below), which are not subject to a local programming action, there is still a need to include the data in the Authority's database, but no CIP amendments are required. Project sponsors are required to submit to the Authority a copy of the grant application request at the same time as the application is made to the funding agency. Project sponsors are also required to submit to the Authority a copy of the grant award letter, as soon as it is received.

Funds subject to this requirement include at least the following:

State: Gas Tax, HES, HBRR, SLPP, and TEE.

7.2.4 Exceptions to Policy-Level Amendments

Irrespective of the funding source or other programming aspects affected, the Executive Director may rule that a requested CIP Amendment is Administrative if the proposed changes, involving one or more projects and one or more funding sources requires programming actions that can be authorized at the staff level at MTC or CTC, or at the Regional Office level for Federal Agencies, such as administrative TIP amendments, or if it results in the following:

- no net change in the total amount of funds allocated to each of the projects involved; and
- no change to the total amount of dollars of each funding source, all affected projects combined; and
- no increase in Proposition B match required, all affected projects combined; and
- when a programming year change is involved, it will have no effect on the delivery schedule for the project because that schedule is determined by documented external factors.

7.3. Requirements for Submittal of CIP Amendment Requests

7.3.1. Application Contents - Format

In order to avoid additional reporting burdens on City departments, the is no specific form or format for submittals to the Authority. However, project sponsors wishing to make application to regional, state or federal programming agencies for changes affecting current CIP programming, or sponsors who are planning to submit initial applications for new programming to regional, state, or federal agencies, must submit two (2) copies of those preliminary applications to the Authority, for review prior to filing there applications with those programming agencies. If this is not available at the time, a short note explaining the reasoning behind the change, and accounting for the

full amount of the funds being programmed should be submitted to the Authority. In addition, a marked-up copy of the cost/funding matrix for each project for which programming actions are being proposed must be included with the application, editing all cells that are affected by the proposed programming action.

It is not the Authority's intent to question the priorities of City departments, or to suggest different projects (particularly regarding applications for new programming), but rather to evaluate their programming requests for impacts on multimodal system performance and for impacts on Proposition B and overall CIP strategy.

7.4. The Authority's Review Process

The sections below detail the Authority's process, which includes an initial administrative level review, to determine the need for further application information as well as to suggest the appropriate level of CMP Amendment required. This is followed by detailed, concurrent reviews for programming and performance implications. The process also calls for discussions with project sponsors to resolve any issues identified by the Authority's review, and establishes basic procedures to ensure disposition of the requests for review within a reasonable period of time.

7.4.1. Application In-take Review

Upon receipt of an application for programming changes, the Authority will perform an initial staff-level review. Within ten (10) working days after receipt of the application, the Authority will communicate in writing to the applicant the need for any additional information, necessary in order to further process the application.

Within (10) working days after receipt of all information necessary to complete the application, the Authority will issue a *letter of initial findings*, notifying the applicant in writing about the level of CIP Amendment required.

If the Authority finds that a policy-level CIP Amendment will be required (involving Authority Board action), the communication will include:

- a schedule for Authority Board approval
- a preliminary list of unresolved conformance or consistency issues identified in connection with the application; and
- a proposed course of action for resolution of these issues, including, at least, consultation and joint efforts with the applicant

7.4.2. Detailed Review

Unless otherwise specified in the proposed schedule for resolution of issues, within ten (10) working days after issuance of the letter of initial findings, the Authority will complete a detailed review of the application. The detailed review will include two components: a programming review, and a performance review. To expedite the process, both reviews will be carried out concurrently at the Authority. The conclusions from the detailed review will form the basis for an administrative finding of concurrence or for a recommendation to the Authority Board, as appropriate.

A. Programming Review

The programming review will be performed by the office of the Director of Plans and Programs, to evaluate issues of Proposition B Strategic Plan consistency and CMP CIP conformance.

Programming Review Criteria
The evaluation of impacts of proposed programming changes on the CIP (including the Prop. B program) is structured to provide information about three key strategic programming and fiscal policy factors for the Authority:

a) **Cost of Money.** The analysis will address questions such as: does the proposed change limit availability of funding by Prop. B category or by state or federal funding source? does it require or bring the Authority closer to the need to bond in order to deliver the Prop. B program? does it otherwise affect other CIP funding sources so as to increase the cost of money?

b) **Leveraging Capacity.** The analysis will address questions such as: does the proposed programming change improve or worsen the Authority's prospective ability to capture state and federal funds for San Francisco projects?, does it increase the local (Prop. B or other) match?

c) **Other Programming Policy Consistency.** The analysis will address questions such as: does the proposed programming change result in a skew of the funding category targets established in the Prop. B Strategic Plan? does it substantially alter the programming priorities established in the Strategic Plan? does it substantially alter the programming priorities established in the latest CMP CIP?

In addition the Planning Department will be asked to provide a consistency review on the basis of General Plan criteria. This review will be incorporated into the Authority's process subject to the Department's ability to meet strict turnaround timelines specified in 7.4.1. and 7.4.2. above, to ensure timely response to other City departments.

B. Performance Review

The performance review will evaluate impacts on the performance of San Francisco's multimodal transportation system.

Performance Review Criteria
The evaluation of potential impacts of proposed programming changes on multimodal system performance will be performed according to the criteria described below. These analyses are intended to provide order-of-magnitude findings about future system performance, particularly cumulative impacts on operating conditions at the facility, corridor, or systemwide level. The process is not focused on prediction of minor changes in individual CMP network segments. As required by state law, the Authority's Transportation Analysis Database (TAD) will support these analyses. The TAD will be improved incrementally over time and complemented with information from city departments and other available sources. For a more detailed discussion of multimodal system performance, please refer to Chapter 5.

An evaluation form will be prepared for each CIP Amendment request, addressing all applicable questions from the sections below:

a) **Effects of Schedule Changes on Performance.** The analysis will address questions such as: Does the proposed programming change involve or result in a delay in the

delivery (completion) of any CIP projects? are there significant anticipated impacts on system performance because of completion delays?

b) **Effects of Scope Changes on Performance.** The analysis will address questions such as: does the proposed programming change result in a downsizing of CIP projects?

c) **Potential Deficiencies.** The analysis will address questions such as: does the proposed programming change create the potential for a deficiency on the CMP network? does it adversely affect the City's ability to implement already adopted deficiency plans? does it adversely affect the likely effectiveness or delivery timelines for an already adopted deficiency plan?

d) **Multimodal Balance.** The analysis will address questions such as: does the proposed programming change affect the multimodal balance of the CIP? does it significantly degrade performance conditions for one mode vis-à-vis other modes? is it likely to significantly affect certain categories of travelers vs. others (e.g., will it adversely affect off-peak transit riders vs. drivers?, or local vs. through trips?)

e) **Subarea Impacts.** The analysis will address questions such as: is the proposed programming change likely to result in disproportionate adverse impacts to system performance for one subarea of the city vs. the others?

7.4.3. Disposition of Amendment Requests

For Administrative-Level Amendments

If the outstanding issues identified during the review process are resolved, the Authority will issue a *letter of concurrence* with the proposed programming change. If there is no resolution within 30 days of the issuance of the *letter of initial findings*, the request will be scheduled for Authority Board consideration at the next meeting.

For Policy-Level Amendments

If there are no outstanding issues identified during the review process, the item will be scheduled for Authority Board action at the next meeting, with a recommendation for approval. If the review process identifies issues, and they are not resolved within the time frame specified in the Authority's *letter of initial findings*, the Authority will establish a schedule for final resolution of these issues, and invite the pertinent programming agencies to facilitate the process. The findings and recommendations from this process will be agendized for Authority Board action on a schedule determined by the Executive Director.

7.5. Adjustments to Prop. B Strategic Plan

As part of the evaluation process for all CIP Amendments, the Authority will explicitly consider and recommend adjustments to the Prop. B Strategic Plan and to the TFCA program, to maintain consistency. Such adjustments will be scheduled for Authority Board action concurrently with the corresponding CIP Amendments.

7.6. Notification of Programming Agencies

The Authority will notify the pertinent regional, state, or federal agencies, in writing, within 5 working days of Authority Board action on policy level CIP Amendments, and/or staff-level approval of Administrative-Level CIP Amendments.

8. Program Overview

Appendix VIII includes cost/funding matrices for CIP improvements programmed through the 1997 San Francisco CMP. Information for these projects is consistent with data reflected in the recently adopted 1997 Update of the Proposition B Strategic Plan, the 1998 State Transportation Improvement Program (STIP) project list for San Francisco, and in the region's 1995 (federal) Transportation Improvement Program. The matrices will be modified as necessary to reflect the final 1998 STIP, expected to be adopted by the California Transportation Commission by June 1, 1998.

The list includes transit, bicycle, pedestrian, waterborne transportation and roadway improvements funded with a variety of local, regional, state and federal transportation sources. San Francisco's program is truly multimodal, with the majority of funds going to transit, pedestrian and bicycle projects.

Since the inception of the Transportation Funds for Clean Air (TFCA) program in 1992, the Authority has programmed a total of $2,685,830 to eligible San Francisco projects. These funds are devoted to projects that improve air quality. Highlights of the TFCA program include significant commitments to alternative fuel vehicles, shuttles to high employment centers, various bicycle projects, and two compressed natural gas (CNG) fueling facilities, one in the Presidio and one in Bayview.

8.1. Transit Program

Many of the projects included in the Capital Improvement Program of the 1997 CMP are large-scale multi-year transit projects that were already reflected in the 1995 and 1993 CMPs, amounting to more than $1.3 billion in funds from a variety of sources. The program addresses maintenance and rehabilitation of MUNI's vast system as well as construction of new lines and facilities.

Among the most significant projects are:

- replacement of the entire (136-vehicle) Light Rail Vehicle (fleet) which provides service in the MUNI Metro system (subway and surface).
- replacement of the trolley bus and diesel bus fleets
- improvements to key Metro stations to comply with the accessibility requirements of the Americans with Disabilities Act (ADA)
- extensive streetcar track replacement
- installation of signal traffic signal preemption devices along diesel coach and trolley bus routes
- replacement of trolley bus overhead wires
- completion of the Mid-Embarcadero section of the F-line
- purchase of historic streetcars for F-line service
- construction of the new Islais Creek bus maintenance facility
- completion of the environmental documentation and conceptual design for the 3rd Street Light Rail Line.

Funding for this capital program involves many sources, most importantly Federal funds (about 38%), State funds (about

19%) and local transportation sales tax (about 27%). The remainder of needed funds are programmed from local and regional sources, such as bridge tolls, transit impact development fees, and the regional allocations of TDA and STA funds. Between 1998 and 2004 the City is programming a total of $7.4 million in Proposition 116 funds for transit projects for MUNI and Caltrain. The CIP also contains three projects involving Caltrain (commuter rail) projects, with the Peninsula Joint Powers Board (JPB) as lead agency. They are for: locomotive rebuild, railcar rehabilitation, and a centralized train control system.

8.2. Roadway Program

All roadway projects included in the 1997 CMP involve rehabilitation or replacement and maintenance of existing facilities. Significant projects include completion of the Mid-Embarcadero Roadway segment between Broadway and Folsom Streets, resurfacing of a number of city streets, installation of Traffic Operations System (TOS) devices on State Route 1, US 101 and I-280, widening and pedestrian and bicycle improvements on César Chávez Street, traffic operations improvements on Doyle Drive and city arterials leading to it, safety improvements on US 101 at the César Chávez northbound off-ramp, and implementation of phase 1 of the Integrated Traffic Management System for San Francisco.

The new Mid-Embarcadero roadway, which will replace the Embarcadero Freeway (demolished after the Loma Prieta Earthquake) is not expected to generate additional vehicular traffic; instead, it is designed to better accommodate transit, pedestrians and bicyclists, increasing its total people-carrying capacity. The improvements will provide better local street access to the Embarcadero and improve the operating conditions for left-turning traffic at most intersections. Design is nearly complete and the construction contract should be advertised by December 1997/January 1998.

By widening lanes and easing the curvature of freeway ramps, the César Chávez project provides improved vehicular (particularly truck) accessibility between the India Basin Industrial Park, the Hunter's Point Naval Shipyard area and both freeways (US Route 101 and I-280). The project will obviate the need for construction of a new freeway interchange at Islais Creek, which would have created major impacts on the surrounding land uses, it will relieve truck traffic through the Bayview area, particularly on Third Street, and it will provide for needed pedestrian and bicycle improvements to the César Chávez Street Circle (at US 101). This project is expected to be advertised in early 1998.

The first phase of the Integrated Traffic Management System project will involve construction of a Traffic Management Control Center and installation of TOS devices primarily in the downtown area. The system will improve traffic flow and dissemination of related information to city departments, transportation agencies, and the public.

8.3. Waterborne Program

This section of the program focuses on improvements to the Downtown Ferry Terminal complex which are intended to allow for increased frequency and reliability of ferry service to the east and south bay. These improvements are part of the master plan for the Downtown Ferry Terminal. Project components that are currently under design or construction include: provision of

a second, publicly accessible landing facility, gangway and trestle to the south of the Ferry Plaza, construction of a "essential deck" (a design capable of withstanding a major earthquake and remaining functional) structure connecting the landing facility to the Ferry Plaza (which is also an "essential" structure) relocation of the north publicly accessible landing facility (south of its present location), construction of an "essential" deck structure connecting the landing facility to the Embarcadero, restoration of the central concourse in the Ferry Building providing a direct connection from the Embarcadero to the ferry landing facilities, and fabrication of signs, railing, lighting, benches, trash can, and other pedestrian amenities throughout the project area.

The project does use Proposition 116 funds (Clean Air and Transportation Improvement Act), but also includes grants from Section 1064 (FY 93 and 94) the Ferry Boat Discretionary Fund under ISTEA, and the Transportation Enhancement Activities (TEA) fund (FY 94). Proposition 116 funds will provide the local match for the federal grants.

The Waterborne Program should also be expanded to support the concept of a water taxi system (included in the City's Transportation Element and the Port's Draft Waterfront Plan). The Program could also support the implementation of a hovercraft shuttle from the Ferry Building to the San Francisco International Airport and the Oakland International Airport (mentioned in the San Francisco Airport Masterplan and Environmental Impact Report).

8.4. Bicycle and Pedestrian Program

The 1997 CMP includes funds for the Lake Merced Bikeway and Van Ness Pedestrian Safety Improvements, as well as for downtown pedestrian alleys, stairways, pedestrian signage, sidewalk widening and curb ramp projects.

The bicycle program is intended to implement projects that facilitate commuting by bicycle. A main feature of the program involves the restriping of wide right lanes on bicycle commute streets to provide a higher margin of safety for bicycle users. All streets proposed for restriping are included as Commute Bike Routes in the Transportation Element of the City's General Plan.

The City has received funding for the bicycle program out of several sources, including $30,000 from the Authority to fund installation of bicycle racks on public sidewalks. Other funds for bicycle projects include about $163,000 in TFCA funds for bicycle parking at city-owned and leased buildings and $39,000 for a bicycle pool for city employees. In addition, bicycle lanes along several arterials (e.g. California and Geneva Streets) are being funded using federal Surface Transportation Program (STP) funds.

THIS PAGE
INTENTIONALLY LEFT BLANK

CHAPTER 9

DEFICIENCY PLANS

Key Topics:

- Legislative Requirements
- Legislative Intent and Application to San Francisco
- Overview
- Deficiency Planning Process
- Special Issues
- Work Program Items - Key Milestones

1. Legislative Requirements

The provision for deficiency plans is intended to work in conjunction with the requirement for annual monitoring of levels of service (LOS) on the designated CMP roadway network. In order to make its annual finding of conformance with the CMP, the Congestion Management Agency (CMA) must first ascertain that the LOS standard is not being violated. If, however, the results of monitoring on a CMP roadway segment show that LOS has fallen below the established standard, the CMA can still make a finding of conformance with the CMP if the local jurisdiction designates the roadway segment as deficient and develops a deficiency plan for it.

California Government Code section 65089.4(a) states that *"A local jurisdiction shall prepare a deficiency plan when highway or roadway level of service standards are not maintained on segments or intersections of the designated system. The deficiency plan shall be adopted by the city or county at a noticed public hearing."* According to section 65089.4(c), deficiency plans must contain the following components: 1) an analysis of the causes of the deficiency, 2) a list of improvements that would have to be made to prevent the deficiency from occurring, including cost estimates, 3) a list of improvements proposed as part of the deficiency plan, and finally 4) an action plan for implementation of the improvements identified as part of the deficiency plan, including an implementation schedule. The improvements proposed must be drawn from an inventory of acceptable actions compiled by the air quality management district. The deficiency plan must "measurably improve" the overall LOS on the designated CMP roadway network, and "contribute to significant improvements in air quality". The statutes also require that the city or county forward the deficiency plan to the Congestion Management Agency, which must hold a public hearing within 60 days of receipt of the deficiency plan, and either accept or reject it, but not modify it. Rejection of a deficiency plan by the Congestion Management Agency will result in a finding of non-conformance with the CMP.

The preparation and review of deficiency plans should not be confused with the separate and independent City processes for review and approval of public or private development projects. It is not the purpose of these guidelines to amend, modify or change the independent requirements of City ordinances or the California Environmental Act (CEQA). The deficiency plan process should take advantage of any past CEQA analysis and avoid duplicating these past efforts if the analysis is still valid. Nevertheless, the assumptions incorporated into past EIRs and TIAs, while reasonable at that time, may not be valid at the time of preparation of the deficiency plan.

While the Authority, as CMA, is required by state law to ascertain the City's conformance with the CMP, including findings to accept or reject deficiency plans as prepared by City departments, the statutes make no provisions and in no way require the Authority to provide funding City departments' activities in connection with the development of Deficiency Plans. Similarly, CMAs do not receive state funding for their activities either. Because of this, the deficiency planning process has bee designed to maximize the use of information and data already required for non-CMP purposes and to minimize any costs to City Departments. In addition, timelines have been tailored to the City's budgetary process, to allow for any

adjustments that might be necessary to respond to Deficiency Plan requirements.

2. Legislative Intent and Application to San Francisco

This section provides background information on deficiency plans and their applicability to San Francisco. For an overview of the Deficiency Plan development process, please see section 3.0. For a detailed discussion of the individual steps in the Deficiency Plan development process, please see section 4.0.

2.1 Deficiency Plans: What They Are

In 1990, the California voters approved Proposition 111; thus adding nine cents in additional tax to each gallon of gasoline sold in the state. The money was to be used to improve transportation throughout California. The year prior to Proposition 111's approval, the State Legislature approved AB 471 (Katz), the original CMP legislation[1]. AB 471 required all local jurisdictions to maintain the adopted LOS standard on all CMP roadways or risk losing their Proposition 111 gas tax revenues. The Legislature then revised the original legislation (through AB 1791 - Katz) to allow jurisdictions to continue to receive their share of Proposition 111 gas tax moneys when the level of service (LOS) on a CMP road segment or intersection falls below LOS "E" provided local jurisdictions prepared deficiency plans for those segments. The latest legislative revisions to the CMP statutes (AB 1963) include the following changes:

- Deficiency plans must be completed within one year of the CMAs official notice of a deficiency.
- The definition of exempt trips have been expanded from inter-regional travel to include trips caused by construction, rehabilitation, or maintenance, impact of freeway ramp metering, traffic signal coordination, low-income housing, and traffic generated by high-density residential or mixed-use development located within a quarter mile of a fixed passenger rail station.
- If a CMA Board adopts a Finding of Non-Conformance, the Board notifies the State Controller who must hold the jurisdiction's Proposition 111 gas tax money in escrow for 12 months, at which point the money is transferred to the CMA.

The intent of deficiency plans, therefore, is to allow development to continue while at the same time forcing local jurisdictions to offset the congestion it causes. The law, however, does not specify how effective local jurisdictions' efforts must be and, after five years of living with the law, the collective experience across the state does not point to what level of effort is acceptable.

The deficiency plan legislation offers local jurisdictions two alternatives:

1) Either eliminate the problem (correct the deficiency where it manifests itself. This is known as *direct remediation*; or

2) Implement other actions that improve the overall performance of the CMP network, even if the actions do not directly improve the original deficiency. These are known as *offsetting actions*.

Offsetting actions, as opposed to direct remediation, include capital improvements, transportation programs, services, or other activities that improve the countywide level of service. Direct mitigation involves removing the deficiency such that the LOS is improved above LOS F. A deficiency plan may include both remediating and offsetting actions. While the preparer of a

[1] The 1989 CMP legislation was part of the AB 471 legislation known as the Katz-Kopp-Baker-Campbell Transportation Blueprint for the 21st Century. Voter approval of Proposition 111 on June 5, 1990 effectively enacted the CMP legislation into law.

deficiency plan may try to remediate the deficiency directly, the technically appropriate remediation may have prohibitive costs, regulatory obstacles, or overwhelming environmental consequences. Offsetting actions provide alternative compensations that may leave the facility no less deficient, but provide improvements in other part of the system.

Note that the questions are asked after a deficiency has been detected (since under state law, deficiency plans cannot be required for predicted, future deficiencies). Thus, deficiency plans are *reactive* solutions applied after the problems exist. In other works, they impose marginal offsetting action but do not directly prevent the problem. Nevertheless, the results of a deficiency plan can be used to inform and influence the environmental review of subsequent, newly proposed developments.

It is important to recognize that while environmental analysis conducted pursuant to CEQA may provide information useful in the preparation of deficiency plans, these plans serve a separate and distinct purpose. It is not the intent of these guidelines to create additional review processes for individual development or public construction projects.

2.2 Applicability to San Francisco and Relationship to Other Analyses

The San Francisco Planning Department requires project sponsors to prepare Transportation Impact Analyses (TIAs) for activities that have the possibility of creating significant transportation impacts. The TIA guidelines spell out procedures that provide a significant measure of the analysis and documentation that would be required as part of a Deficiency Plan. In addition, any project or activity required to prepare an EIR must also address many of the requirements of a deficiency plan. Nevertheless, these procedures do not obviate the need for deficiency plan procedures in San Francisco for the following reasons:

- A TIA *forecasts* the severity of a project's expected impacts on facilities, while a deficiency plan *implements* actions to mitigate -- or offset -- problems already detected (i.e., deficiencies *actually measured* on a facility).

- A TIA or EIR considers the cumulative impacts on a transportation facility of a proposed project in combination with other foreseeable similar projects. The deficiency plan, because its focus is on a facility rather than an individual project, considers multiple causes of the deficiency.

- CEQA findings approving a development project frequently include a Statement of Overriding Considerations, accepting transportation impacts in exchange for other benefits.

- A TIA or EIR is prepared prior to project implementation, *attempting* to analyze and mitigate a project's potential negative impacts. If the project causes a deficiency, the Authority must conclude that (1) the TIA or CEQA analysis was flawed, (2) mitigation measures were not able to be implemented, or (3) it is not possible to impose mitigation on private developers without unacceptably constraining economic growth and/or it is not financially feasible for the City to implement mitigation. Deficiency plans, therefore, take over where TIAs leave off. Conversely, TIAs may identify and address transportation impacts for projects which are statutorily excluded from deficiency plan analysis.

The intent, however, is to structure a Deficiency Plan process that takes maximum advantage of the analysis procedures and data resources already in place and minimize the need for additional analysis requirements.

2.3 CMP Multimodal Network & Performance Monitoring

The CMP system consists of four subsystems: roadways, transit, bicycle, and

pedestrian. The monitoring program measures level of service on the roadways and intersections. According to the State legislation [Government Code § 65089.3 (b)(1)(A)], deficiencies are detected only on the roadway system. Nevertheless, deficiency plans must take into consideration, and in fact depend on, the transit, bicycle and pedestrian systems to offset LOS deficiencies on the roads and intersections. The CMP road network is defined in Chapter 3 of the 1995 CMP. The other component of the CMP system are addressed in Chapter 5: Performance Element.

3. Overview

This brief overview is intended as accompanying text to the flow charts in Exhibits 1,2, and 3. The sections that follow this overview provide further detail on each step shown in the flow charts. The charts use three types of symbols:

- an oval indicates information, data, or other types of inputs needed by the City (i.e., a department or the Mayor's Office) or the Authority to take action or make a decision.
- a rectangular box indicates an action taken by the Authority, the Mayor's Office, the lead department, or other city departments.
- a diamond indicates a decision made by either the Authority staff or the Authority Board. Unless explicitly stated as the "Authority Board", the word "Authority" always connotes Authority staff.

The flow chart consists of three, sequential exhibits representing the Deficiency Plan process from the moment where the deficiency is detected all the way through the point when the Authority Board accepts or rejects the deficiency plan.

Exhibit 1. Deficiency Detection and City Notification

The box and four connecting ovals at the top of Exhibit 1 show that the Authority monitors the CMP roadway network and detects a potential deficiency when the level of service (LOS) on any non-exempted segment of the CMP roadway network goes to LOS F. Exempted segments are those that were found at LOS F during the first monitoring cycle in 1991 (see Chapter 4). The dotted oval indicates that the Authority may provide the City with advanced warning of potential future deficiencies by incorporating the results of studies by other departments such as transportation impact analyses (TIAs) or environmental impact reports (EIRs). The Authority is required by law only to detect and notify the City of a current deficiency.

Once the Authority detects a deficiency, it must determine if the deficiency has been caused by external causes, exempt causes, or temporary causes. If subsequent investigation and modeling reveals the deficiency is real, the Authority Board adopts a finding of "Deficiency" and notifies the City (Mayor's Office). This notification includes information on the nature and cause of the deficiency.

In the box at the bottom of Exhibit 1, the Mayor's Office assigns a city department to act as the lead department for the preparation of a deficiency plan. At this point, the deficiency detection and notification stage is complete and the process continues as shown in Exhibit 2.

Note that no action by the Mayor's office is required prior to adoption by the Authority of a finding of deficiency. The timelines in Exhibit 1 assume that LOS monitoring is performed in Sept/Oct, and that all follow up verification monitoring is completed by the following April. The operative date for initiation of the deficiency plan preparation process is the Authority's adoption of the finding of deficiency. This schedule provides an opportunity for City Departments to incorporate funding requests for Deficiency Plan activities into the City's budget process in April/May.

Exhibit 2. Deficiency Analysis and Remediation Plan Preparation

State law requires that a Deficiency plan first analyze and determine what it would take to correct the problem through direct action on the roadway found to be deficient.

This direct action is called a Remediation Plan (shown as the three boxes inside the dotted line). The Remediation plan usually involves adding sufficient capacity to the roadway to allow traffic to flow at LOS "E" or better. The Remediation plan must include any and all programmed improvements, as shown by the three ovals to the right. Note that these three ovals represent mitigation measures, exactions or projects already required by adopted EIR s or plans, not new requirements.

The lead department then submits the Remediation Plan, including its own determination as to the plan's feasibility. The Authority evaluates the Remediation plan and either accepts or rejects the lead department's finding. If the lead department finds it can mitigate the deficiency, it must prepare an implementation plan for its proposed Remediation plan. If the lead department finds it cannot remediate the deficiency and the Authority concurs, the lead department proceeds with the preparation of a Deficiency Plan (presented on Exhibit 3).

The Authority's evaluation of the lead department's findings will involve its own feasibility criteria, consultations with the departments that would be called upon to implement the Remediation Plan, the effects of CIP projects and other capital investment on the deficient segment, and consultation with the Planning Department on General Plan consistency, as appropriate. The feasibility criteria include financial feasibility, environmental compatibility, and consistency with the City's transportation planning priorities and policies. In addition, the Authority considers the ability of other departments to help mitigate the deficiency and the likelihood that CIP projects or other programmed improvements will eventually and significantly improve the deficient segment.

If the lead department finds that the package of remediation measures is feasible, it must prepare an implementation plan. The Authority may either accept or reject the Implementation Plan for the Remediation plan. If rejected, the lead department must prepare an alternative. If accepted, the Authority modifies the CIP or other transportation programming documents to conform with the Remediation plan improvements. All departments called upon to implement portions of the Remediation plan must enter into an inter-agency agreement stating each department's responsibility and funding sources.

Exhibit 3. Deficiency Plan Evaluation and Approval

The preparation of a deficiency plan involves two basic steps: 1) the compilation of a list of deficiency plans actions and the subsequent preparation of an Implementation Plan. In the first step, the lead department should include actions that will bear directly on the deficient road segment, actions that will improve system-wide LOS (as measured by the multi-modal performance measures), and the actions listed by the BAAQMD.

The Authority either rejects or accepts the lead department's proposed list of Deficiency Plan actions. If accepted, the lead department prepares an Implementation Plan and submits this plan for the Authority's approval. If the Authority rejects the action list, the lead department must prepare an alternative action list for the Authority's review.

The Authority uses similar adequacy criteria as described in its evaluation of the Remediation plan (Exhibit 2). If the Authority accepts the Implementation Plan, the Authority Board will hold a noticed public meeting and adopt a Finding of Conformance. If, however, the Authority and the lead department are unable to agree on a implementation plan, the lead department may either try again, or submit its Final Deficiency Plan (including its implementation plan) to the Authority Board for Board action. If the Authority Board issues a Finding of Non-Conformance, the Authority must notify the State Controller to withhold funds. The funds are held in escrow for 12 months and then turned over to the Authority (as the City's CMA).

Exhibit 1. Deficiency Detection and City Notification

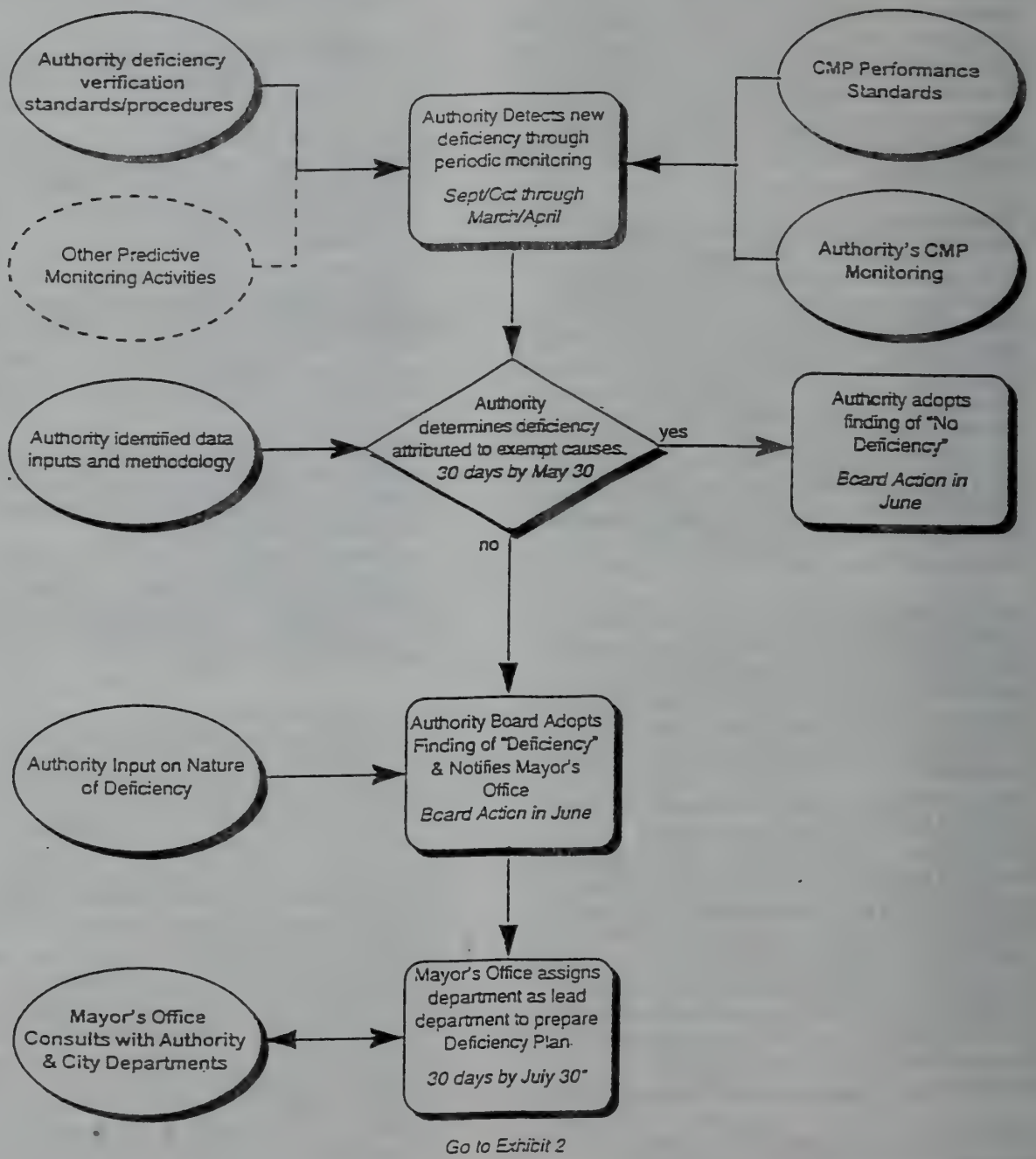

Authority deficiency verification standards/procedures
Other Predictive Monitoring Activities
Authority Detects new deficiency through periodic monitoring
Sept/Oct through March/April
CMP Performance Standards
Authority's CMP Monitoring
Authority identified data inputs and methodology
Authority determines deficiency attributed to exempt causes.
30 days by May 30
yes
Authority adopts finding of "No Deficiency"
Board Action in June
no
Authority Input on Nature of Deficiency
Authority Board Adopts Finding of "Deficiency" & Notifies Mayor's Office
Board Action in June
Mayor's Office Consults with Authority & City Departments
Mayor's Office assigns department as lead department to prepare Deficiency Plan
30 days by July 30"
Go to Exhibit 2
Legend
Data source or input
Action
Decision

Exhibit 2. Deficiency Analysis and Mitigation Plan Preparation

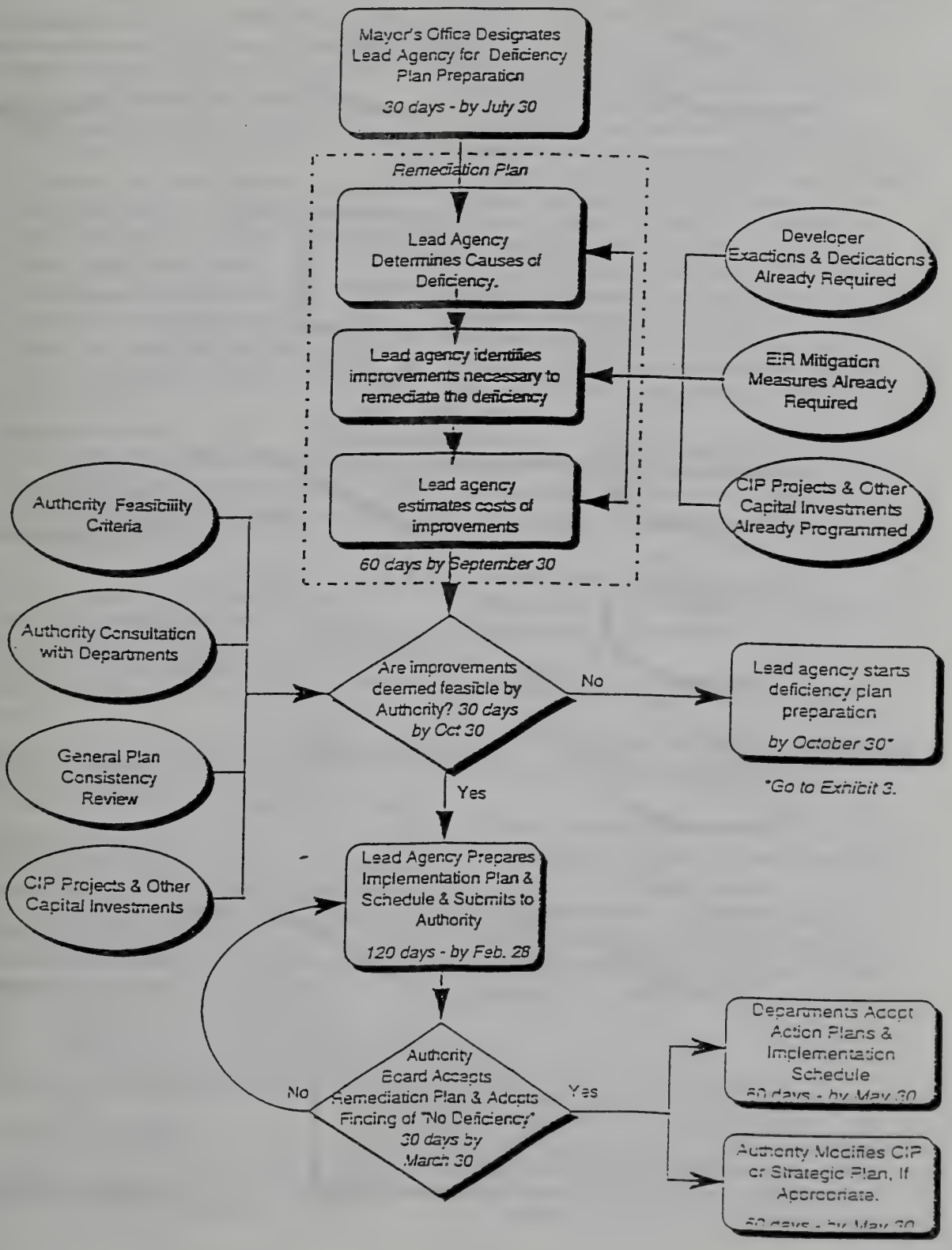
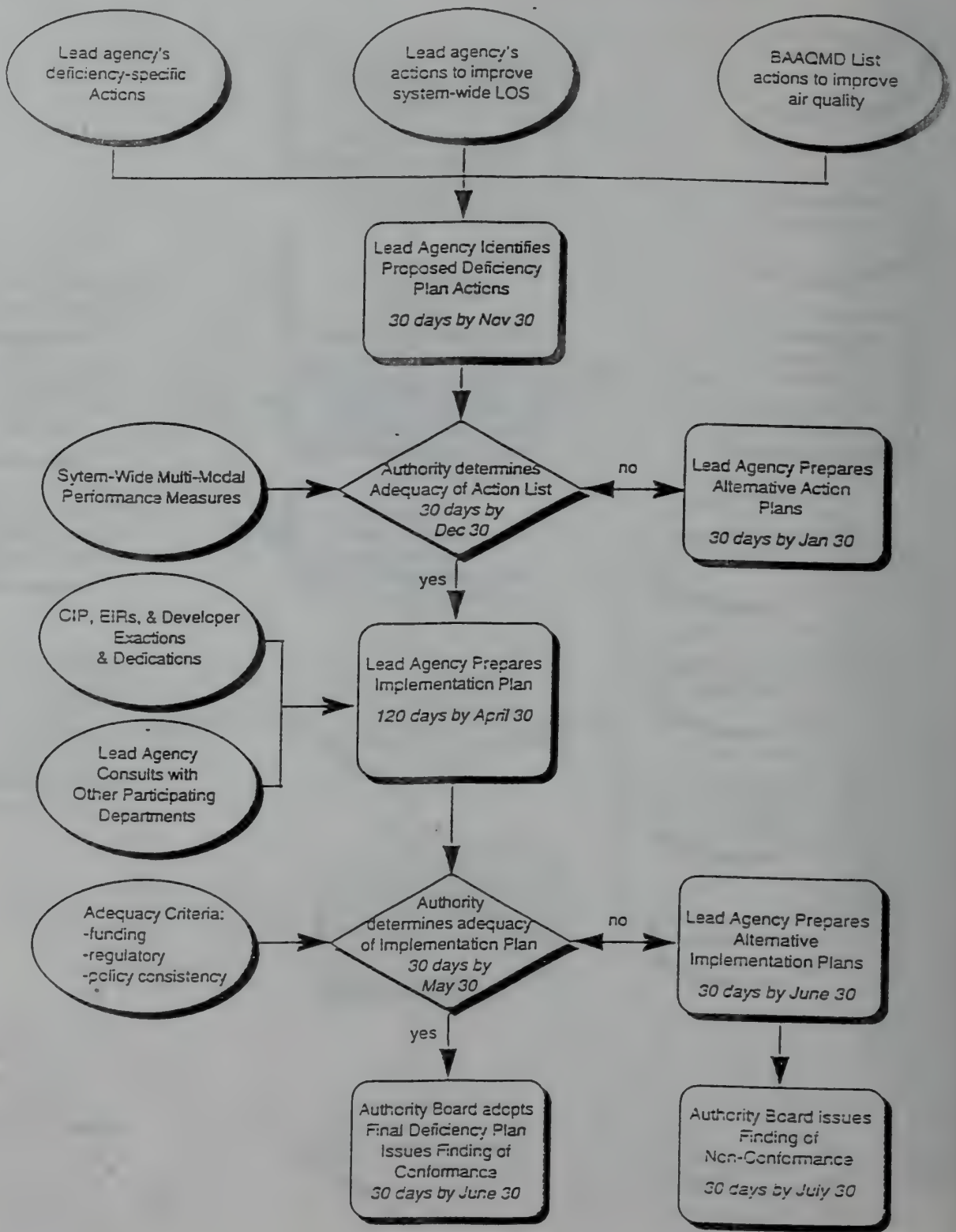

Mayor's Office Designates Lead Agency for Deficiency Plan Preparation
30 days - by July 30
Remediation Plan
Lead Agency Determines Causes of Deficiency.
Lead agency identifies improvements necessary to remediate the deficiency
Lead agency estimates costs of improvements
60 days by September 30
Developer Exactions & Dedications Already Required
EIR Mitigation Measures Already Required
CIP Projects & Other Capital Investments Already Programmed
Authority Feasibility Criteria
Authority Consultation with Departments
General Plan Consistency Review
CIP Projects & Other Capital Investments
Are improvements deemed feasible by Authority? 30 days by Oct 30
No
Lead agency starts deficiency plan preparation
by October 30*
*Go to Exhibit 3.
Yes
Lead Agency Prepares Implementation Plan & Schedule & Submits to Authority
120 days - by Feb. 28
Authority Board Accepts Remediation Plan & Accepts Finding of "No Deficiency"
30 days by March 30
No
Yes
Departments Accept Action Plans & Implementation Schedule
60 days - by May 30
Authority Modifies CIP or Strategic Plan, If Appropriate.
60 days - by May 30

Exhibit 3. Deficiency Plan Evaluation and Approval


Lead agency's deficiency-specific Actions
Lead agency's actions to improve system-wide LOS
BAAQMD List actions to improve air quality
Lead Agency Identifies Proposed Deficiency Plan Actions
30 days by Nov 30
Sytem-Wide Multi-Modal Performance Measures
Authority determines Adequacy of Action List
30 days by Dec 30
no
Lead Agency Prepares Alternative Action Plans
30 days by Jan 30
yes
CIP, EIRs, & Develcper Exactions & Dedications
Lead Agency Consults with Other Participating Departments
Lead Agency Prepares Implementation Plan
120 days by April 30
Adequacy Criteria:
-funding
-regulatory
-policy consistency
Authority determines adequacy of Implementation Plan
30 days by May 30
no
Lead Agency Prepares Alternative Implementation Plans
30 days by June 30
yes
Authority Board adopts Final Deficiency Plan Issues Finding of Conformance
30 days by June 30
Authority Board issues Finding of Non-Conformance
30 days by July 30

4. Deficiency Planning Process

The following sections describe the methodology to be followed in preparing Deficiency Plans. They address:

a) The detection and determination of the deficiency and the designation of a city department as the lead department that will develop a Deficiency Plan (Section 4.1).

b) The preparation of the actual Deficiency Plan, beginning with the development of a Remediation plan that proposes roadway improvements to remove the deficiency and estimates their cost, then proceeds with the development of a list of offsetting actions (Section 4.2)

c) The preparation of an implementation plan for actions recommended in the Deficiency Plan (Section 4.3).

This process is designed to capitalize on the strengths and capabilities of each city department or agency in terms of transportation impact analysis, LOS monitoring, or enforcement of mitigation measures.

4.1 Deficiency Detection & Designation of Lead Department

4.1.1 Deficiency Detection

The Authority will continue to conduct floating cars runs as part of its periodic monitoring of the CMP roadway network. Chapter provides detailed background on monitoring procedures. While this monitoring program will detect deficiencies once they have occurred, it will not forecast future traffic conditions or the location of potential future deficiencies. Please see Section 5.3 for a discussion of future deficiency detection.

Determination of Causes

Upon detection of a deficiency, the Authority will consult with MTC to determine if external trips or pass through trips may have caused the deficiency. It will also review all relevant CEQA traffic analysis and/or TIAs of recently completed projects. It will then use the Travel Analysis Database (TAD), sketch planning techniques and other means to isolate and examine the cause(s) in more detail. See Chapter 4 for more detail on deficiencies through LOS monitoring. Following the detection of a deficiency through the monitoring of LOS on the CMP roadway network, the Authority completes an investigation to determine if any trips are exempt and if the deficiency still exists after removing the exempt trips from the deficient roadway segment. The State legislation requiring deficiency plans has specifically exempted the trips generated by specific activities [Government Code § 65089.4.(f)]. Thus, a deficiency that results because of a exempt activity will have the exempt trips deducted and be re-evaluated to verify whether the roadway segment in question has a deficiency. The exempt activities include:

- Inter-regional travel (i.e., pass through trips which have neither origin or destination in San Francisco);
- Construction, rehabilitation, or maintenance of facilities that impact the CMP roadway network;
- Impact of freeway ramp metering;
- Traffic signal coordination by the state or multi-jurisdictional agencies;
- Traffic generated by the provision of low-income and very low-income housing; and
- Traffic generated by high-density residential or mixed-use development located within a quarter mile of a fixed passenger rail station.[2]

---

[2] "High density residential development" means a minimum of 24 dwelling units per acre and equal to 120 percent of the maximum density allowed under the local general plan and zoning ordinance, or a minimum density of 75 dwelling units per

If the exempt trips are deducted and the deficiency still exists (i.e., the LOS on the segment in question has not improved to at least LOS "E"), a deficiency plan must be prepared.

Findings of Deficiency Notification of & Mayor's Office

If, after subtracting the allowed exemptions (see Section 4.1.3), the LOS on the roadway segment in question has not improved to at least LOS "E" (calculated according to procedures detailed in Chapter 4), the Authority Board will adopt a Finding of Deficiency and notify the Mayor's Office of the need for preparation of a Deficiency Plan. The Authority may, as part of this notification, provide an assessment of the potential causes of the deficiency to aid the Mayor's Office in designation of a city department as a lead department for the preparation of the Deficiency Plan.

The Authority may recommend to the Mayor's Office that the lead department consider future (predicted) deficiencies in preparing its deficiency plan. Deficiency Plans that apply to future as well as current deficiencies may result in synergies, offsetting deficiencies with fewer actions than would be necessary if separate deficiency plans were prepared sequentially. See Section 5.3 for further details.

State law does not require deficiency plans to consider future deficiencies. The decision to include future deficiencies in a deficiency plan is at the discretion of the Mayor's Office. The Authority will help coordinate information to facilitate this pro-active approach to deficiency plan preparation.

4.1.2 Lead Department Designation

Upon notification of a deficiency by the Authority, the Mayor's Office will designate a city department as lead department for the preparation of a deficiency plan. As the lead department, the designated department may request the involvement of other departments, especially where design, implementation, or funding of likely offsetting actions are not within the jurisdiction of the lead department. The Authority will be available to consult with the Mayor's Office.

4.2 Deficiency Plan Preparation and Approval

The preparation of a deficiency plan involves six basic steps:

1) The lead department prepares a Remediation plan which includes: a) a description of the causes of the deficiency; b) a list of all improvements necessary to fully remediate the problem on the deficient roadway itself; and c) an estimate of the cost and available funding for those improvements. The lead department includes a statement as to the feasibility of the Remediation plan (Section 4.2.1).

2) The Authority evaluates the feasibility of the Remediation plan and accepts or rejects the lead department's findings (Section 4.2.2). If the lead department proposes a feasible Remediation plan, it skips to Step 5. If the Authority accepts that the Remediation plan is not feasible, then:

3) The lead department prepares a Deficiency Plan Action List (Section 4.2.3).

4) The Authority reviews the Action List and accepts or rejects it (Section 4.2.4).

5) The Lead Department prepares an Implementation Plan, identifying responsible departments, funding sources, and regulatory authority (Section 4.4.1).

6) The Authority reviews Implementation Plan and, if acceptable, approves or rejects the

---

acre. "Mixed use development" must have more than one half the land area or floor area used for high density housing.

Final Deficiency Plan (Section 4.4.2).

For deficiencies caused by large projects, some of the analysis required in these steps may have been completed through the projects' EIRs. While the analysis and any other relevant documentation may be used *verbatim* for the Deficiency Plan or Implementation Plan, the Final Deficiency Plan documentation must conform to the requirements outlined in the six steps above and described in more detail below.

4.2.1 Remediation plan to Remedy the Specific Deficiency

Analysis of Deficiency's Causes
State law require the Deficiency Plan to identify the causes of the deficiency [Government Code § 65089.3(b)(1)(A)]. The lead department may apply the Authority's Finding of a Deficiency as supporting analysis of the deficiency's causes. This analysis is not intended to be exhaustive or highly detailed. Sketch planning methods using standard procedures are adequate.

The analysis of the deficiency's causes should include the effects of future CIP improvements. A deficiency may be removed when a roadway improvement programmed in the CIP increases the capacity of the roadway in question. If the lead department determines that the effects of any CIP improvement scheduled to begin within the seven year time horizon of the CIP will remove the deficiency, the Authority -- after review -- can make a Finding of No Deficiency. The lead department, however, must demonstrate this CIP improvements will be completed and functioning within ten years of the current CIP.

Improvements to Remedy Deficiency
Once the cause(s) of the deficiency have been determined, State law [Government Code § 65089.4 (c) (2)] requires that the lead department identify:

"A list of improvements necessary for the deficient segment or intersection to maintain the minimum level of service otherwise required and the estimated costs of the improvements."

This requirement is intended to encourage the lead department to try to remove the deficiency through direct improvement of the roadway (i.e., improve the performance of that segment to LOS "E" of better). The lead department will use sketch planning methods consistent with both MTC practices and data and with the Authority's Travel Demand Guidelines (Chapter 10) to estimate the effects of the improvements on traffic flow on the deficient facility. The estimation methodology measures the effects of capacity improvements on the level of service and indicates whether the improvements provide capacity at an order-of-magnitude commensurate with the deficiency.

The compilation of this list should include any relevant projects included in the CIP or CEQA mitigation measures included in specific EIRs. The lead department should provide detailed descriptions of any EIR mitigation requirements. A proposed Remediation Plan may include the same (or modifications to) improvements already specified and funded in an EIR, the CIP, or developer exactions or dedications found to be relevant, including scheduled implementation, project characteristics, and funding sources. The intent here is not to reopen the CEQA process for EIRs already completed, but rather to give the City credit by counting any required EIR mitigation measures as contributing to remediate the identified deficiency.

Cost of Improvements
Once the lead department has specified a sufficient number of improvements to mitigate the deficiency, it should prepare cost estimates. The estimates should include all costs (i.e., right-of-way acquisition, construction, design, etc.) and a description of funding identified for these improvements, including those already specified as mitigation measures in any approved EIRs. If detailed cost information is not available from an existing, reliable source, the lead department may use standard procedures to estimate an order-of-magnitude cost.

Conclusions
The result of this effort is a Remediation plan. The Remediation plan must include the following:

1) An estimate of the extra roadway capacity needed to remove the

deficiency (i.e., improve the LOS to Level "E" or better).

2) An estimate of the total costs (operating and capital) of the capacity improvements

3) A description of which improvements are already funded through measures required by project approval, the CIP or developer exactions or dedications already required (see Exhibit 2).

If the Remediation plan concludes that deficiency can be removed from the segment in question through feasible improvements, the lead department should prepare an implementation plan for the Remediation plan according to the process described in Section 4.4).

4.2.2 Remediation Plan Evaluation

Within 30 days of receiving the Remediation plan from the lead department, the Authority evaluates the adequacy of the Plan conclusions according to the following three criteria:

1) **Sufficient Improvements to Capacity:** Are the proposed improvements adding sufficient capacity to the roadway in question to increase the LOS to level "E" or better?

2) **Financially Reasonable:** Are the cost estimates for the proposed improvement reasonably accurate? If the Remediation plan's conclusions regarding the feasibility or unfeasibility of funding the improvements reasonable, especially with regard to the potential variations of funding, timing of fund flow, and the level of control over the source of funding?

3) **Implementability:** Can the Plan overcome environmental, regulatory, community obstacles within the ten year time frame and does the lead department have sufficient cooperation from other departments and agencies involves in the Plan's implementation? Is the Plan consistent with the General Plan? Are the modifications to the CIP, if any, reasonable.

Based on the lead department's submittal (and the feasibility criteria above), the Authority will make a finding of either feasibility or unfeasibility. If the Remediation plan is feasible, the lead department will prepare an Implementation Plan (see Section 4.4). If the Authority finds that the Remediation plan is not feasible, the lead department will prepare a Deficiency Plan Action List (see Section 4.3).

4.3 Deficiency Plan Action List Preparation

If the Authority determines that the Remediation plan is infeasible, the lead department prepares a list of offsetting actions that will improve the system-wide multi-modal level of service but may have only limited effect on the deficient facility itself. The Authority will review this proposed list and approve or reject it.

4.3.1 Action Selection

The lead department will select actions according to two criteria: 1) actions that have some direct mitigating effect on the deficiency; and 2) global actions that will measurably improve multi-modal LOS somewhere in the system. These criteria suggest the following categories of actions:

1) **Deficiency-Specific Actions**: These actions should be in close proximity to the deficient facility or cause a measurable improvement in the performance of the deficient facility. Such actions may include some of the improvements specified in the Remediation plan (see Subsection 3.3). They may, for instance, be based on mitigation measures that were included in a project EIR but rejected by the decisionmaker as infeasible, if the basis for the infeasibility finding has been removed by, for example, new

legislation authorizing imposition of transportation exactions that has been adopted since project approval and that is applicable retroactively, or new funding sources that have been obtained to provided additional transit service..

2) **Global Actions To Improve System-wide Multimodal LOS**: These are actions aimed at improving system-wide LOS. In general, these actions may involve advancing the scheduled implementation of CIP projects, or reconsideration of projects that were considered but not included in the current CIP. They may also involve services or multimodal programs that may help shift travel demand away from single occupant vehicles or discourage or eliminate some of those trips. The selection of non-CIP projects as deficiency plan actions will require Authority approval in order to maintain the integrity of the CIP process.

The Bay Area Air Quality Management District (BAAQMD) has prepared a list of approved Deficiency Plan actions. The CMP legislation requires that all deficiency plan actions come from that list. In general, this list favors actions that relieve congestion through increased use of alternatives to the single occupancy vehicle (e.g., transit, pedestrian, bicycle, telecommuting, TDM measures, etc.).

The lead department has 60 days to prepare a Preferred Action Plan List. Each action on the list must show its estimated capital (or start-up) and operating (or on-going) costs. The lead department submits this list to the Authority for its consideration.

Depending on the complexity and severity of the deficiency, the lead department may choose to prepare (or Authority may request) one or more alternative action plans. The alternative plans may vary regarding cost, policy priorities (e.g., transit versus roadway), or functional approach (e.g., TSM-based actions versus capital-intensive actions). Alternative action plans, for example may stress more land use-intensive actions, transit-intensive actions, or congestion pricing strategies.

4.3.2 Action Plan List Review

The Authority will evaluate the preferred Deficiency Plan Action List, including each action's estimate cost within 30 days of submittal by the lead department. The Authority's review consists of a four step procedure: 1) apply adequacy criteria; 2) evaluate sufficiency of Action Plan; 3) Confirm General Plan consistency with the Planning Department; and 4) issue findings.

Adequacy Criteria

The CMP legislation, as amended, includes three transit performance measures (in addition to the LOS performance measure) for the evaluation of current and future system performance and the effectiveness of Deficiency Action Plans [Government Code § 65089.(b)(2)]. The three additional transit performance measures gauge public transit frequency, routing, and coordination. Through future CMP updates or amendments, the Authority may adopt additional multimodal performance measures which will then be used to evaluate the proposed list of Deficiency Plan Actions.

Action List Sufficiency

The Authority's evaluation of the proposed Action List involves some estimate of benefits and costs. The Authority is developing a set of multi-modal performance measures as part of its 1995 CMP update. These measures are more sensitive to the effects of a broader range of actions than the traditional roadway LOS measure. The Authority will evaluate the sufficiency of the entire action list as a package rather than try to measure the effects of individual actions or combinations of actions. See Chapter 5 for a detailed description of the multimodal performance measures.

Issuance of Adequacy Findings

Within 30 days of the lead department's submittal, the Authority will issue a finding determining whether the Action List is adequate. The Authority's finding will be based on the impact of the proposed actions on system-wide, multimodal performance. This step is intended to ensure that the types of actions proposed are commensurate with

the magnitude of the deficiency. Funding feasibility is addressed under 4.4.

4.4 Implementation Plan

The Authority requires the lead department to prepare an Implementation Plan within 90 days as part of the Deficiency Plan Document. This period includes the time for any city commission actions necessary for the execution of the Implementation Plan. The Implementation Plan identifies the responsible implementing department(s) for each action, and the sources of funding. If legislative or administrative authority is necessary, the implementation plan also describes the authority that the implementing department will require to carry out the action.

4.4.1 Implementation Plan Development

The lead department is responsible for developing the Implementation Plan. For each action in the deficiency plan, the lead department must specify the following:

1) The final cost of the actions and the sources of capital (up-front) and operating (on-going) funds. This funding plan should include specific and detailed references to all EIRs that include the same deficiency plan actions as part of their *required* mitigation measures. It must also note any correspondence with CIP projects.

2) A monitoring program to verify the action's implementation. The description of the monitoring program should conform to the CEQA monitoring requirements and must refer to any EIRs that include monitoring of mitigation measures that are the same as the Deficiency Plan Actions.

3) A schedule for implementation. All actions must be implemented within the seven-year time horizon for the current CIP. If a deficiency plan action is programmed for funding in the sixth or seventh year of the CIP, it will need to be fully implemented with three years of its initiation in order to be considered a feasible action within the Deficiency Plan's ten-year horizon.

4) Identification of city departments responsible for the action's funding, implementation, and on-going support/operation. The lead department must assess the likelihood of other departments' ability to implement all actions that the lead department cannot implement itself.

4.4.2 Other Departments

The lead department is unlikely to have comprehensive authority over the implementation of all actions on the approved action list. Clear identification of all departments responsible for implementation, therefore, is essential for the Authority's approval of the Final Deficiency Plan. Furthermore, the Implementation Plan must include an interdepartmental agreement among all responsible implementing departments stating each department's agreement to fulfill their responsibilities for implementing deficiency plan actions.

4.4.3 Identification of Funding

The Implementation Plan must include a detailed funding plan. This plan must identify specific sources of money and the methods of financing if necessary. Any Deficiency Plan Actions that are included in the CIP may be referenced to that document. If funding for capital projects is already planned and required of developers, the funding plan must reference the development agreement, vested map, or other document committing funds (see Exhibit 2).

Under some circumstances, deficiency plan actions may also depend on capital or operations funds from state or federal sources. Such actions must be included in the Regional Transportation Plan (RTP) Track I project list compiled by MTC. If actions are funded through the City's Downtown Development Fee Program, the Implementation Plan must reference the

expenditure plan of the Development Fee Program, indicating the specific funding commitment.

4.4.4 Implementation Plan and Deficiency Plan Approval

Within 30 days of submittal by the lead department, the Authority will either accept or reject the Implementation Plan. The Authority will make its determination based on the required elements of the Implementation Plan, as detailed in 4.4.1. Note that lack of an acceptable funding plan will result in rejection of the Implementation Plan. Once the Authority has approved the Implementation Plan, the lead department will have additional 30 days to finalize and submit the Final Deficiency Plan document for Authority Board approval. Within 30 days of submittal of the final Deficiency plan by the lead department, the Authority Board will hold a noticed public meeting and either approve or reject it.

Note that if the Authority rejects the Implementation Plan, the lead department may either propose an alternative Implementation Plan within 30 days, or choose to submit the Final Deficiency Plan with the Implementation Plan as is. In the latter case, the Authority will notify the Mayor's Office of its intent to reject the Final Deficiency Plan due to the inadequacy of the Implementation Plan.

If the Authority Board rejects the Final Deficiency Plan and issues a finding of non-conformance, pursuant to the State law (Government Code 65089.5), the Authority must submit its findings to MTC and the State Controller for the withholding of State funds.

4.4.5 Deficiency Plan Document Structure

A Deficiency Plan Report must include the following sections:

1.0 Introduction Identification of the Deficiency's Causes, including:

1.1 Description of the deficiency (i.e., road segment)

1.2 Description of the adjacent facilities

1.3 Analysis of the causes of the deficiency.

1.4 Description of the existing traffic conditions within the boundaries.

1.5 Projection future transportation conditions for at least the next 10 years.

1.6 A map of the area, the deficiency, and adjacent facilities and transit routes.

2.0 Remediation plan, consisting of:

2.1 An estimate of the extra roadway capacity needed to remove the deficiency

2.2 An estimate of the total costs (operating and capital) of the capacity improvements

2.3 An description of which improvements that are already programmed through individual project conditions of approval, the CIP, or developer exactions or dedications.

3.0 List of Actions, broken out into:

3.1 Deficiency-Specific Actions:

3.2 Global Actions To Improve System-wide LOS

4.0 Implementation Plan, specifying the following:

4.1 The final cost of the actions and the sources of capital (up-front) and operating (on-going) funds.

4.2 A monitoring program to verify the action's implementation.

4.3 A schedule for implementation.

4.4 Identification of city departments responsible for the action's funding, implementation, and on-going support/operation.

5.0 Identification of Other Departments' Responsibilities for Implementation

5. Special Issues

The following sections discuss special circumstances where the Deficiency Plan process, as described in Section 4.0, may have to be modified. Treatment of these issues is not intended to be exhaustive; thus, the Authority may expand this section in the future as it gains experience with guiding deficiency plans preparation.

5.1 Multi-County Deficiency Plans

Deficiencies may occur because of the activities of other counties or they occur on a regional facility (e.g., the Bay Bridge). Under such circumstances, the Authority will take the lead in coordinating the preparation of a Deficiency Plan, following MTC's process and mutual agreements with other agencies. More specifically, the Authority will coordinate with other congestion management agencies (CMAs) and regional agencies (e.g., MTC, BAAQMD, ABAG, etc.). The Authority may request the Mayor's Office to designate other city departments to prepare the Remediation plan, Deficiency Plan Action List, or the Implementation Plan. Furthermore, other departments may be designated as the responsible agencies for the implementation of the deficiency plan.

5.2 Deficiency Plans Addressing Multiple Deficiencies

The Mayor's Office may request that the lead department prepare a deficiency plan that covers more than one deficient roadway segment. A consolidated deficiency plan for multiple deficiencies could save the City time, money, and the effort required to prepare multiple deficiency plans. Efficiencies may also be realized if the lead department tackled future deficiencies (identified through the monitoring program described in Chapter 4) as part of a deficiency plan addressing an existing deficiency (see Section 5.3).

Multiple deficiencies may be likely if an area or transportation corridor are impacted by large land use projects (e.g., Mission Bay), significant transportation infrastructure projects (e.g., demolition of the Central Freeway), or pronounced socioeconomic trends (e.g., increased commuting from the East Bay. The multiple deficiencies may be within close geographical proximity or distributed along a corridor (or parallel facility) but they must be functionally related (i.e., result from or be multiple manifestations of the same cause). Under such circumstances, the Authority may encourage a single area-wide, or corridor Deficiency Plan.

The process would be similar to that described in Section 4.0. Nevertheless, the lead department must include the following considerations:

1) Review of past and current EIRs to determine if these documents anticipated the compounding effects of their individual impacts and proposed appropriate mitigation measures.

2) Modeling or estimation of traffic within the area or corridor to determine the effectiveness of the Remediation plan improvements and possible synergies between actions on the Deficiency Plan Action List.

3) Consideration of funding, regulatory, or policy issues that may improve or degrade the feasibility of the proposed Implementation Plan.

4) Coordination with the CIP and other transportation programming and/or planning documents designed to address transportation planning for a subarea of the city, a specific corridor, or multiple facilities or modes.

5.3 Future Deficiencies

The legislation does not require that local jurisdictions address deficiencies anticipated through prediction or modeling of future conditions. The requirement for Deficiency Plans is triggered by the results of actual monitoring of the CMP network. Future deficiencies may be predicted by: a) project-specific traffic impact analyses (TIAs); b) project EIRs; and c) program-level EIRs (e.g., the Waterfront Plan EIR)

Over time, the Authority will use information from these *predictive* detection efforts as part of its monitoring procedure. Further detail on predictive detection of deficiencies is expected to be available in the 1999 CMP. In combination with those new Land Use Analysis Guidelines, the Congestion Management Program will improve its ability to maintain acceptable system performance and prevent or lessen the impacts of future deficiencies. In addition, the Authority will use the Strategic Analysis Reports (SARs) to help highlight the implications of future deficiencies. The following are special cases where it may be appropriate to prepare a deficiency plan to address future deficiencies.

5.3.1 Multiple Deficiencies

Addressing future deficiencies may be in order if it is found that it would support or complement the development of a deficiency plan for current deficiencies. This could result in efficiencies in terms of deficiency plan preparation efforts and produce a more effective plan. The lead department will include its proposal to address multiple future deficiencies in its Deficiency Plan Action List for review by the Authority.

5.3.2 Future Deficiencies Caused by Changes in Transportation Infrastructure or Land Use

Future changes to the transportation infrastructure or services may cause deficiencies. The demolition of the Central Freeway, for example, could have dramatic impacts on the LOS of Market Street. Most large infrastructure projects will prepare EIRs that analyze potential deficiencies. As noted in Section 2.2, however, there are limitations on the degree to which the EIR would consider the cumulative impacts of other proposed infrastructure projects in the City. In addition, the EIR process may lead to the adoption of a Statement of Overriding Considerations, accepting large transportation impacts in exchange for "larger" benefits, and override mitigation measures. Under these circumstances, the lead department preparing the project EIR should be able to incorporate most of the Deficiency Plan requirements into its CEQA documentation.

There are many potential causes of deficiencies, particularly changes to the transportation infrastructure in the city as well as land use changes. The following sections highlight activities by City departments that could impact deficiency planning in San Francisco. The descriptions are not meant to be comprehensive, but rather to exemplify special issues related to departmental activities.

Department of Public Works (DPW)
DPW develops a Capital Improvement Program. This results in numerous construction activities that should help pre-empt deficiencies. Occasionally, however, some projects may at the expense of mixed flow. According to the legislation, the Authority must declare a deficiency when LOS for mixed flow falls below level E.

Department of Parking and Traffic (DPT)
DPT regulates on street parking and City-owned off-street parking. DPT plans and manages signal design, modification, timing and interconnections, as well as traffic signing, pavement markings and channelization, traffic regulations such as turn prohibitions and towaway zones. DPT enforces parking violations while the Police Department enforces moving violations. DPT normally works as part of Technical Advisory Committees on major transportation projects. Typically, none of these activities require formal transportation impact analysis. DPT, however, may become involved in some large scale roadway projects (e.g. DPT was the lead agency on the Central Freeway replacement study) which will require formal transportation impact analysis.

Muni
As the agency that plans and operates the City's public transit system, Muni's activities have direct impacts on the transportation system's LOS. To the degree that a traveler may choose between Muni and driving their car, Muni ridership levels affect congestion levels. In turn, mode choice is affected by the quality of service Muni provides. Operating changes and fare increases could result in modes shift significant enough to trigger deficiencies. Changes is operating policies (e.g., distance between bus stops) or even capital improvements (e.g., installation of bus stops can also result in deficiencies).

San Francisco Redevelopment Agency (SFRA)
SFRA has jurisdiction over numerous development projects throughout the city.

These activities include the Hunter's Point and Treasure Island base conversion projects, Yerba Buena Center, Rincon Point South Beach, and many other residential infill projects.

Port of San Francisco

The Port of San Francisco has jurisdiction over the seven and a half miles of Bayside waterfront, running from the Hyde Street Pier (Fisherman's Wharf) to India Basin (Pier 98) and from the piers themselves to adjacent parcels (sea wall lots) .

- **Waterfront Plan:** For the first time in the City's history, the Port of San Francisco has prepared a waterfront plan regulating future development of the seven and a half miles of waterfront property. The plan provides for a wide range of land uses and has strict design guidelines that will control traffic impacts. Nevertheless, the majority of potential land use will generate considerably more trips than current uses; thus, deficiencies are likely.

- **Pier 45, Boat Harbor Expansion and Underwater World:** Pier 45 has been extensively renovated after the Loma Prieta earthquake. The renovations include more intensive fish handling and processing facilities, more parking capacity, a Marine Fisheries Institute, and a wide apron for public access. In addition, a proposed expansion of the adjacent boat harbor will add 100 new berths and increase fishing charters, bay tours, and transient boat activities. Finally, Pier 39 has recently added a new aquarium, Underwater World. In combination, these activities will add new trips to an already congested area.

Planning Department

The Planning Department is responsible for land use planning and development management. This role, stipulated in the City Charter, gives the Planning Department direct or oversight responsibility for every land use project from its initial design stages through environmental impact analysis, to final completion. The Authority expects the total amount of small scale growth that can occur over the next twenty years to be insufficient to cause deficiencies. Large-scale projects, however, will have major impacts. Example of such projects include:

- Revised Mission Bay Project;
- Rincon Point South Beach Redevelopment Area;
- Re-Use of Treasure Island, and Hunter's Point Naval Shipyard;
- Revised South of Market Specific Plan;
- Mid-Embarcadero Open Space Project; and
- Transbay Terminal Replacement.

In addition, the Planning Department oversees preparation of Transportation Impact Analyses (TIAs) and its Office of Environmental Review (OER) coordinates CEQA review and EIR preparation for development projects. All of these documents are intended to anticipate the impacts of a proposed project on the transportation system; thus, they have direct relevance to the Deficiency Plan if a project's impacts cause a deficiency.

6. Work Program Items - Key Milestones

- Issue final determination of deficiency on LOS F segments and notify City Departments - By April ~~1998~~ 2000
- Provide review and comments to City Departments preparing Deficiency Plans - After April ~~1998~~ 2000, as required
- Review and approve final Deficiency Plans submitted by City Departments - As required
- Monitor Deficiency Plan implementation - As required

CHAPTER 10

TRAVEL DEMAND MODEL AND UNIFORM DATABASE

Key Topics:

- Legislative Requirements
- Legislative Intent and Application to San Francisco
- Technical Approach
- Work Programs Items - Key Milestones

1. Legislative Requirements

California Government Code section 65089 (c), requires that each Congestion Management Agency, in consultation with the regional transportation planning agency (MTC in the By Area), the county , and local jurisdictions, develop for a uniform database on traffic impacts for use in a countywide transportation computer model. The CMA must approve computer models used for county sub-areas, including models used by local jurisdiction for land use impact analysis. All models must be consistent with the modeling methodology and databases used by the regional transportation planning agency.

2. Legislative Intent and Application to San Francisco

One of the most significant issues contributing to the enactment of congestion management legislation is the difficulty of determining responsibility for transportation system impacts when they result from land use decisions taken by several local jurisdiction, or when the impacts are felt across local jurisdictional boundaries.

The intent of the requirement for travel demand models was to identify a technical *tool* that could address these issues from the perspective of a uniform technical basis for analysis, and provide answers which although not explicitly stated in the legislation, would lead to inter jurisdictional agreements involving the assessment of mitigation fees to adjust the transportation system's capacity to absorb development.

As a unified City and County, San Francisco does not have to contend with the issues of estimating transportation impacts across city boundaries, although inter-county impacts must still be considered. However, the development of a method for travel demand forecasting for San Francisco presents a different set of challenges, of a technical nature, because of the difficulties inherent in accurately forecasting travel by modes other than the private automobile, (e.g.: transit and pedestrian trips). The approach to development of a travel demand analysis methodology for San Francisco's CMP is focused on these issues.

3. Technical Approach

3.1 The Choice of a GIS-Based Tool

The 1995 San Francisco CMP established a methodology and process for determining the most appropriate travel analysis tool for CMP purposes. The process included an evaluation of current software packages available for computerized travel demand modeling. This evaluation was part of a larger exploration of feasible methods to obtain travel demand forecasts to suit San Francisco's CMP process and other related

data needs. A major consideration in identifying the appropriate tool for San Francisco was cost. At the time of the analysis, complex computerized travel demand models could only be built at great expense, and required major commitment of staff time and effort to maintain and update them.

Another significant factor was the fit between proposed travel forecasting tools and the characteristics of the San Francisco travel market. Over the past two decades, because the market for computerized model applications has been largely suburban, models have evolved and improved in their accuracy to forecast automobile trips. This trend has been reinforced by the widespread use and increasing sophistication of traffic engineering programs, which can be used in conjunction with travel demand models for specific purposes such as intersection and queuing analyses. Computerized models have traditionally not performed reliably enough when it comes to predicting ridership on alternative transportation modes, particularly bus transit or pedestrian trips, or even on auto-based trips such as carpools or vanpools, which exhibit different characteristics from single-occupant vehicles. The Authority's evaluation emphasized that the level of investment in a computerized model must be weighed against its ability to deliver, with more than marginal reliability, the types of data that would be meaningful for the strategic analysis purposes of the San Francisco CMP.

The tool that resulted from the Authority's process was a GIS-based database using ArcView software. The database is capable of storing and relating large numbers of data for many variables that are significant in analyzing travel demand in San Francisco. The Authority's Travel Analysis Database (TAD), was developed using TIGER files for an initial base map, but plans are underway to switch to the more accurate centerline map recently developed by the City's Department of Public Works. The TAD contains information on many transportation variables. For example the TAD has files representing all MUNI bus stops in the city. This information is linked to transit schedule and actual transit schedule performance, ridership, load factors, etc. The TAD also stores land use data, demographic information from the Census, congestion management network monitoring data, data from travel surveys such as the Citywide Travel Behavior Survey, and information about the status of transportation projects being implemented in the city. The combination of these data items provides excellent information for travel demand analysis in a dense, built up environment like San Francisco. A detailed description of the contents of the TAD is provided in Appendix IX.

Over the past year the Authority has worked to significantly improve the TAD's analysis capabilities. The TAD is now capable of performing standardize analyses such as calculating minimum travel time paths between points in the street network (taking into account street conditions, stop signs, etc) for various modes. Graphic display protocols have been created to standardize the production of certain types of maps, to facilitate analysis of transportation conditions, and the TAD has become the central tool in the analyses being conducted for the Citywide Mobility Study and for Strategic Analysis Reports prepared by the Authority on a periodic basis.

3.2 Development of a Four-Step Travel Demand Forecasting Model

The recent Board decision to authorize and fund the development of a Countywide Transportation Plan, and the execution of the MOA with the Planning Department will result in the development of a citywide 4-step

forecasting model. This will be a very helpful tool for decision making, particularly because of the need to consider multiple trade-offs, both at the system-wide and corridor levels. Although the process for developing technical specifications for the model is not yet underway, it is expected that the model will combine the graphic display and data management capabilities of a GIS application like the TAD, with the iterative capabilities of a PC-based 4-step model. The result would be a tool that could be very effective in sketch planning or policy-level travel demand and performance forecasting exercises of the kind typically associated with long-range planning efforts. Different from more conventional models, however, this tool will allow us to display data using highly effective graphics, and maps, so that the results of modeling are readily understandable to Board members and to the average citizen. Section 4 addresses key steps in developing the model.

3.3 Use of the Regional Model

While the TAD has become an essential tool for CMP analyses, it cannot entirely replace a four-step travel demand model. Until the new countywide model is developed, as part of the long range Transportation Plan, the Authority's policy is to rely on the MTC's Regional Model for the generation of travel demand forecasts when a full cycle of trip-generation through assignment is necessary for analysis purposes. Use of the regional model and its outputs ensures consistency with MTC requirements and obviates the need for specific guidelines for CMP travel demand forecasting for San Francisco.

4. Work Program Items – Key Milestones

Regarding development of a 4-step model, the Authority will work with the Planning Department, other City agencies and the regional agencies to collaboratively:

- develop the technical specifications for the new model
- finalize the model for application to alternative investment strategies during development of the long-range transportation plan
- establish a protocol for accessing the capabilities of the model, such as for departments or other parties to request model runs or documentation of model assumptions
- establish a protocol, roles and responsibilities for the periodic update of the model and its assumptions

It is anticipated that the model will be adopted by the Authority at the time of adoption of the recommendations in the long range Transportation Plan, which is now expected to occur in about 14 months.

THIS PAGE
INTENTIONALLY LEFT BLANK

APPENDIX I

Regional (MTC) Guidance Regarding the Development of Congestion Management Programs

THIS PAGE
INTENTIONALLY LEFT BLANK

METROPOLITAN
TRANSPORTATION
COMMISSION

Joseph P. Bort MetroCenter
101 Eighth Street
Oakland, CA 94607-4700
Tel: 510.464.7700
TTY/TDD: 510.464.7769
Fax: 510.464.7848
e-mail: info@mtc.dst.ca.us

Memorandum

TO: Work Program Committee DATE: 6/12/97

FROM: Deputy Executive Director W.I.: 30.5.10

RE: Congestion Management Program Policy: MTC Resolution No. 3000

Request

The attached MTC Resolution No. 3000 approves an update to MTC's guidelines for consistency of Congestion Management Programs with the Regional Transportation Plan. We are requesting that WPC refer MTC Resolution No. 3000 to the Commission for approval.

Background

Since the State Blueprint legislation, counties have been required to prepare Congestion Management Programs (CMPs). The CMP is a local transportation planning process which, among other functions, establishes traffic service standards, designates a CMP "system", establishes transportation performance standards and includes a seven year Capital Improvement Program. The CMP and its Capital Improvement Program are used by MTC to help identify county funding priorities for state highway funds in the State Transportation Improvement Program. Recent legislation (AB 2419 (Bowler) Chapter 293, Statutes of 1996) has made the preparation of CMPs optional if local jurisdictions and the Board of Supervisors elect to opt out of the program. However, our understanding at this time is that all counties are planning to develop a 1997 CMP.

The state law which established the CMP process requires that MTC evaluate the consistency between the CMP and the Regional Transportation Plan. Those projects and programs that are inconsistent with the Regional Transportation Plan can be excluded from the State Transportation Improvement Program and, thus, excluded from receiving state highway funds. Therefore, it is important that MTC clearly identify what it expects from the CMP process in order to ensure a consistency finding.

The attached CMP Consistency Guidelines have been previously issued and used by CMPs. However, they need to be updated for the following reasons:

1. To reflect changes making CMPs optional
2. To omit specific dates and references that were relevant to prior CMP development processes
3. To include the updated modeling consistency checklist developed by the Modeling Working Group of the Partnership
4. To delegate authority to the Work Program Committee to make non-substantive

Item 3 is the most substantive update item and reflects the efforts of the Partnership to ensure that local county transportation models and MTC's transportation model are consistent. State law requires such consistency, and the Bay Area Partnership has energetically addressed this issue by developing methodologies to be used by local coun agencies (Congestion Management Agencies) to ensure that local traffic forecasts are consistent with forecasts made by MTC to support investment decisions in the Regional Transportation Plan.

Our overall schedule, which has been transmitted to the Congestion Management Agenci is to receive draft CMPs by the end of July. These drafts will be evaluated, and we will report back to the WPC in September on any problems or significant findings. Final CMI are due at MTC by October 16. We anticipate bringing recommendations for a consistenc finding to WPC in November, in conjunction with the WPC action on the Regional Transportation Improvement Program.

William F. Hein

WFH/DT

c:\work\cmp.wpc

Date: June 25, 1997
W.I.: 30.5.10
Referred By: WPC

ABSTRACT

Resolution No. 3000

This resolution revises MTC's Guidance for Consistency of Congestion Management Programs with the Regional Transportation Plan.

This resolution supercedes Resolution No. 2537

Date: June 25, 1997
W.I.: 30.5.10
Referred By: WPC

Re: Congestion Management Program Policy

METROPOLITAN TRANSPORTATION COMMISSION
RESOLUTION NO. 3000

WHEREAS, the Metropolitan Transportation Commission (MTC) is the regional transportation planning agency for the San Francisco Bay Area pursuant to Government Code Sections 66500 et seq; and

WHEREAS, Government Code § 65080 requires each transportation planning agency to prepare a regional transportation plan and a regional transportation improvement program directed at the achievement of a coordinated and balanced regional transportation system; and

WHEREAS, Government Code § 65089 requires a designated local agency in each urbanized county to develop, adopt, and periodically update a congestion management program for the county and its included cities unless a majority of local governments in a county and the county board of supervisors elect to be exempt; and requires that this congestion management program be developed in consultation, among others, with the regional transportation planning agency; and

WHEREAS, Government Code § 65089.2 requires that, for each congestion management program prepared, the regional transportation planning agency must make a finding that each congestion management program is consistent with the regional transportation plan, and upon making that finding shall incorporate the congestion management program into the regional transportation improvement program; and

WHEREAS, Government Code § 65082 requires that adopted congestion management programs be incorporated into the regional transportation improvement program approved by MTC; and

WHEREAS, MTC has adopted a Congestion Management Program Policy (MTC Resolution 2537, Revised) to provide guidance for all the counties and cities within the region in preparing their congestion management programs; and,

WHEREAS, MTC's Congestion Management Program Policy needs to be updated from time to time to provide further guidance, now, therefore, be it

RESOLVED, that MTC adopts the Congestion Management Program Policy, as set forth in Attachments A and B to this resolution, which are incorporated herein by reference; and, be it further

RESOLVED, that the MTC Work Program Committee is delegated the responsibility for approving amendments to Attachments A and B; and, be it further

RESOLVED, that this resolution shall be transmitted to the nine Bay Area Congestion Management Agencies for use in preparing their congestion management programs; and, be it further

RESOLVED, that MTC Resolution No. 2537, Revised is hereby superceded.

METROPOLITAN TRANSPORTATION COMMISSION

_____

Jane Baker, Chairwoman

The above resolution was entered into by the Metropolitan Transportation Commission at a regular meeting of the Commission held in Oakland, California, on June 25, 1997.

GUIDANCE FOR CONSISTENCY OF CONGESTION MANAGEMENT PROGRAMS WITH THE REGIONAL TRANSPORTATION PLAN

Metropolitan Transportation Commission

June 25, 1997

Date: June 25, 1997
W.I.: 30.5.10
Referred By: WPC

Attachment A
Resolution No. 3000
page 2 of 12

GUIDANCE FOR CONSISTENCY OF CONGESTION MANAGEMENT PROGRAMS WITH THE REGIONAL TRANSPORTATION PLAN

TABLE OF CONTENTS

I. INTRODUCTION 4
A. Purpose Of This Guidance 4
B. Legislative Requirement for Congestion Management Programs 4
C. The Role of CMPs in the Metropolitan Planning Process 5

II. MTC's ROLE and RESPONSIBILITIES 5
A. MTC's Responsibilities regarding CMPs 5
B. The Regional Transportation Plan (RTP) 6
C. Consistency Findings 7
1) Goals and objectives established in the RTP 8
2) Consistency of the system definition with adjoining counties. 8
3) Consistency with pertinent Air Quality Plans, as incorporated in the RTP. 8
4) Consistency with the MTC Travel Demand Modeling Databases and Methodologies 9
5) RTP Financial Requirements and Projections. 9
D. Consistency and Compatibility of the Programs within the Region 10
E. Incorporation of the CMP Projects into the RTIP 10

III. CMP PREPARATION AND SUBMITTAL TO MTC 11
A. CMP Preparation 11
B. Regional Coordination 11
C. Submittal to MTC 11
D. MTC Consistency Findings for CMPs 12

APPENDICES (Attachment B to MTC Resolution No. 3000):

Date: June 25, 1997
W.I.: 30.5.10
Referred By: WPC

Attachment A
Resolution No. 3000
page 3 of 12

APPENDIX A Federal and State Transportation Control Measures
APPENDIX B Checklist for Modeling Consistency for CMPs

I. INTRODUCTION

A. Purpose Of This Guidance

The Congestion Management Program (CMP) statutes establish specific requirements for the content and development process for CMPs, for the relationship between CMPs and the metropolitan planning process, for CMA monitoring and other responsibilities, and for the responsibilities of MTC as the regional transportation agency. However, under recent legislation (AB 2419 (Bowler) Chapter 293, Statutes of 1996), CMPs are not required in a county if a majority of local governments and the Board of Supervisors adopt resolutions electing to be exempt from this requirement. This Guidance is for those counties who continue to prepare a CMP in accordance with state requirements. For counties which opt out of the CMP, MTC will directly work with the appropriate county agencies to establish project priorities for funding.

CMP statutes also specify particular responsibilities involving CMPs for the regional transportation agency, in the Bay Area, MTC. These responsibilities include review of the consistency of the CMPs with the RTP, evaluation of the consistency and compatibility of the CMPs in the Bay Area, and inclusion of the CMP projects in the Regional Transportation Improvement Program (RTIP).

The purpose of this guidance is to focus on the relationship of the CMPs to the regional planning process and MTC's role in determining consistency of CMPs with the Regional Transportation Plan (RTP).

B. Legislative Requirement for Congestion Management Programs

Congestion Management Programs were established as part of a bi-partisan legislative package in 1989, and approved by the voters in 1990. The legislation increased transportation revenues and changed state transportation planning and programming processes. The specific CMP provisions were originally chartered by the Katz-Kopp-Baker-Campbell Transportation Blueprint for the Twenty-First Century AB 471 (Katz) (Chapter 106, Statutes 1989) and AB 471 (Katz) (Chapter 106, Statutes of 1989). They were revised by AB 1791 (Katz) (Chapter 16, Statutes of 1990), AB 3093 (Katz) (Chapter 26, Statutes of 1992), AB 1963 (Katz) (Chapter 114, Statutes

of 1994)and AB 2419 (Bowler) (Chapter 293, Statues of 1996), which made CMPs optional

CMP statutes establish requirements for local jurisdictions to receive certain gas tax subvention funds. Additionally, CMPs play a role in the development of specific project proposals for the Regional Transportation Improvement Program.

C. The Role of CMPs in the Metropolitan Planning Process

CMPs play a role in the countywide and regional transportation planning processes:

- CMPs can identify specific near term projects to implement the longer range vision established in a countywide plan.
- Through CMPs, the transportation investment priorities of the multiple jurisdictions in each county can be addressed in a countywide context.
- CMPs establish a link between local land use decision making and the transportation planning process.
- CMPs are a building block for the federally required Congestion Management System.

II. MTC's ROLE and RESPONSIBILITIES

A. MTC's Responsibilities regarding CMPs

MTC's direct responsibilities under CMP statutes are concentrated in the following provisions:

> *"The regional agency shall evaluate the consistency between the program (i.e., the CMP) and the regional transportation plans required pursuant to Section 65080. In the case of a multicounty regional transportation planning agency, that agency shall evaluate the consistency and compatibility of the programs within the region.* (Section 65089.2 (a))

The regional agency, upon finding that the program is consistent, shall incorporate the program into the regional transportation improvement program as provided for in Section 65082. If the regional agency finds the program is inconsistent, it may exclude any project in the congestion management program from inclusion in the regional transportation improvement program. (Section 65089.2(b))

It is the intent of the Legislature that the regional agency, when its boundaries include areas in more than one county, should resolve inconsistencies and mediate disputes which arise between agencies related to congestion management programs adopted for those areas." Section 65089.2.(d)(1))

B. The Regional Transportation Plan (RTP)

MTC is responsible for the RTP, which is the 20 year regional transportation policy and planning document for the region. The CMA may submit project proposals for consideration by MTC in developing future financially constrained RTPs. Legal requirements for the RTP are established by State law (Govt. Code Sec. 66500 et seq., & Sec. 65080) and Federal law (Title 23. U.S.C., Sec. 134 et. seq.). Under state law, the three elements of the RTP are:

- The Policy Element, which identifies the Commission's goals, policies and objectives.

- The Financial Element, which projects the operating and maintenance costs for the existing transportation system, and estimates reasonably assumed revenues for transportation over the next 20 years. Twenty year revenue estimates are developed for each Bay Area county.

- The Action Element, which outlines a financially constrained investment strategy for the continued maintenance and operation of the MTS, and defines certain strategic expansions for the system. The region's investment is specified for each county.

Under federal metropolitan planning requirements, the RTP must consider planning factors, Management Systems, federal and State air quality requirements, and the Americans with Disabilities Act.

C. Consistency Findings

MTC's findings for the consistency of CMPs focus on five areas:

- Goals and objectives established in the RTP,
- Consistency of the system definition with adjoining counties,
- Consistency with federal and state air quality plans.
- Consistency with the MTC travel demand modeling database and methodologies; and
- RTP financial assumptions.

1) Goals and objectives established in the RTP.

The RTP includes the following goals:

- Improve mobility for persons and freight:
  The ability to move with a reasonable degree of ease and predictability on a Metropolitan Transportation System (MTS) in the Bay Area is key to the region's economy and quality of life. The MTS should be the focus of the many partner agencies who operate it.

- Promote equity for system users:
  Equitable access to the region's transportation system, and the decision-making process that governs it, should be provided for all persons.

- Enhance sensitivity to the environment
  The environmental impact, both short and long-term, of transportation decisions should be fully analyzed and considered, and adverse impacts mitigated whenever possible.

- Support economic vitality of the region
  The relationship between a productive regional economy and the ability of the transportation infrastructure to move individuals, commodities, and information should be recognized and reinforced.

- Support community vitality of the region

Under the federal Intermodal Surface Transportation Efficiency Act (ISTEA) of 1991, the actions, programs and projects in the RTP must be financially deliverable within reasonable estimates of public and private resources. While CMPs are not required by legislation to be financially constrained, recognition of financial constraints, including the costs for maintaining and operating the existing multi-modal system and the status of specific major projects, will strengthen the consistency and linkage between the regional planning process and the CMP.

D. Consistency and Compatibility of the Programs within the Region

The legislation requires that, in the case of a multi-county regional transportation agency, that agency shall evaluate the consistency and compatibility of the congestion management programs within the region. Further, it is the Legislature's stated intention that the regional agency (i.e., MTC) resolve inconsistencies and mediate disputes between congestion management programs within a region.

To the extent useful and necessary, MTC will identify differences in methodologies and approaches between the CMPs on such issues as performance measures and land use impacts.

E. Incorporation of the CMP Projects into the RTIP

MTC is responsible for the RTIP, which is developed with input from the Bay Area Partnership. The RTIP is a seven year proposal of specific projects, developed for specific fund sources and programs. The RTIP is the regional proposal for State and federal funding, adopted by MTC and provided to the California Transportation Commission (CTC) for the development of the State Transportation Improvement Program (STIP). The RTIP is required to be consistent with the RTP which is currently in effect. The RTP is revised periodically.

The CMP statutes establish a direct linkage between CMPs that have been found to be consistent with the RTP, and the RTIP. MTC will review the projects in the CIP for consistency with the RTP. MTC's consistency findings for projects in the CMPs will be limited to those projects that are included in the RTP, and do not extend to other projects that may be included in the CMP. Some projects may be found consistent with a program category in the RTP. MTC, upon finding that the CMP is consistent with the RTP, shall incorporate the program into the RTIP, subject to specific

programming and funding requirements. If MTC finds the program inconsistent, it may exclude any project in the program from inclusion in the RTIP. Since the RTIP must be consistent with the RTP, projects that are not consistent with the RTP will not be included in the RTIP. MTC may include certain projects or programs in the RTIP which are not in a CIP, but which are in the RTP.

MTC's most current multimodal priority setting process includes procedures for the screening, scoring, and programming of projects.

MTC will establish funding targets for specific funds, based upon the fund estimate as adopted by the CTC. Project proposals can only be included in the RTIP within these funding bid targets. MTC will also provide information on other relevant RTIP processes and requirements, including coordination between city, county, and transit districts for project applications, schedule, evaluations and recommendations of project submittals, as appropriate for the RTIP.

III. CMP PREPARATION AND SUBMITTAL TO MTC

A. CMP Preparation

If prepared, the CMP shall be developed by the CMA in consultation with, and with the cooperation of, MTC, transportation providers, local governments, Caltrans, and the BAAQMD, and adopted at a noticed public hearing of the CMA. The RTIP is scheduled to be adopted every other year. If circumstances arise that change this schedule, MTC will work with the CMAs in determining an appropriate schedule.

B. Regional Coordination

In addition to program development and coordination at the county level, and consistency with the RTP, the compatibility of the CMPs with other Bay Area CMPs would be enhanced through identification of cross county issues in an appropriate forum, such as Partnership and other appropriate policy and technical committees. Discussions would be most beneficial if done prior to final CMA actions on the CMP.

Transportation improvements should be used to help create more livable communities and enhance the Bay Area quality of life.

2) Consistency of the system definition with adjoining counties.

The CMP statutes require that the CMA designate a system of highways and roadways which shall be subject to the CMP requirements. Consistency requires the regional continuity of the CMP designated system for facilities that cross county borders. MTC's consistency review will be guided by those elements of the CMP system that are also part of the Metropolitan Transportation System (MTS), as established in the most recent RTP.

3) Consistency with pertinent Air Quality Plans, as incorporated in the RTP.

The RTP incorporates Transportation Control Measures (TCMs) contained in the federal and state air quality plans to achieve and maintain the respective standards for ozone and carbon monoxide. The statutes require that the Capital Improvement Program (CIP) of the CMP conform to transportation related vehicle emission air quality mitigation measures. CMPs should promote the region's adopted transportation control measures (TCMs) for the Federal and State Clean Air Plans.

- A list of federal and state TCMs is provided in Table 1 of Attachment A. (Note that the BAAQMD periodically updates state TCMs in the Clean Air Plan. The 1994 Bay Area Clean Air Plan is the adopted Plan at the date of this resolution. CMP sponsors should check with the BAAQMD to determine if TCMs have been updated.)

- In particular, TCMs that require local implementation should be identified in the CMP, specifically in the CIP. If needed MTC will indicate TCMs that need to be emphasized to help achieve federal and state air quality standards.

4) Consistency with the MTC Travel Demand Modeling Databases and Methodologies

The agency, (i.e., the CMA) in consultation with the regional agency, cities, and the county, shall develop a uniform data base on traffic impacts for use in a countywide transportation computer model . . . The computer models shall be

consistent with the modeling methodology adopted by the regional planning agency. The data bases used in the models shall be consistent with the data bases used by the regional planning agency. Where the regional agency has jurisdiction over two or more counties, the data bases used by the agency shall be consistent with the data bases used by the regional agency. (Section 65089 (c))

MTC desires the development of highly consistent travel demand models, with coordinated regional and subregional models and shared databases, to provide a common foundation for transportation policy and investment analysis.

The Modeling Coordination Working Group of the Bay Area Partnership is evaluating approaches towards improving modeling consistency regionwide. Specific issues include comparing and combining information from regional/county and county/county analyses, use of forecasting data for multiple purposes, and periodically updating the models. The Working Group serves as a forum for sharing data and expertise, and providing peer review for issues involving the models developed by or for the CMAs, MTC, and other parties.

For the 1997 CMPs, the MTC checklist for modeling, as it is periodically reviewed and updated by the Modeling Coordination Working Group of the Partnership, will be used to guide the consistency assessment of CMA models with the MTC model.

The Checklist is included in Attachment B, and addresses:

- Demographic/econometric forecasts
- Pricing assumptions
- Network assumptions
- Auto ownership assumptions
- Trip generation methodology
- Trip distribution methodology
- Mode choice methodology
- Traffic assignment methodologies

5) RTP Financial Requirements and Projections.

C. Submittal to MTC

To provide adequate review time, draft CMPs should be submitted to MTC in accordance to a schedule MTC will develop to allow sufficient time for incorporation into the RTIP for submittal to the California Transportation Commission. Final CMPs must be adopted prior to MTC consistency findings

D. MTC Consistency Findings for CMPs

MTC will evaluate consistency of the CMP every two years with the RTP that is in effect when the CMP is submitted. MTC will evaluate the consistency of draft CMPs when received, based upon the areas specified in this guidance, and will provide staff comments of any significant concerns. MTC can only make final consistency findings on CMPs that have been officially adopted.

Appendix A: Federal and State Transportation Control Measures

Table A-1: Transportation Control Measures in the Federal Air Quality and Maintenance Plan for the Bay Area

	FEDERAL TCMs	DESCRIPTION
TCM 1	Reaffirm commitment to 28% transit ridership increase between 1978 and 1983.	Increase transit ridership according to the transit operator's five-year plans.
TCM 2	Support post-1983 improvements identified in the operator's five-year plans, and, after consultation with the operators, adopt ridership increase target for the period 1983 through 1987.	A target for this TCM was to increase ridership by 15% between 1982/83 and 1987/88.
TCM 3	Seek to expand and improve public transit beyond committed levels.	This TCM is to upgrade and expand transit service between the years 1982/83 and 1987/88. The target was to increase the combined fleet size by 15% during this period.
TCM 4	Continue to support development of High Occupancy Vehicle (HOV) lanes.	Implement HOV lanes where justified on a case-by-case basis: also includes highway ramp meters with HOV bypass lanes.
TCM 5	Continues to support RIDES efforts.	Support for RIDES efforts in regionwide commuter matching services, vanpooling and employer services designed to encourage employees to participate in ridesharing activities.
TCM 6	Continue efforts to obtain funding to support long-range transit improvements.	Covers the funding and implementation of the Guadalupe light-rail transit in Santa Clara County and BART extensions to North Concord and Warm Springs (in Fremont).
TCM 7	Reaffirm commitment to preferential parking program.	Support the development of park-and-ride lots, where commuters can leave their cars and complete trips by other modes.

continued

(Cont'd.)

Table A-1: Transportation Control Measures in the Federal Air Quality and Maintenance Plan for the Bay Area

	FEDERAL TCMs	DESCRIPTION
TCM 8	Encourage transit operators to work with Caltrans to identify underutilized lots along major transit lines that could be used as park-and-ride lots.	Applies to Caltrans' joint use park-and-ride program to establish lots in existing private parking areas.
TCM 9	Expand Commute Alternatives Program.	Encourages employers to promote alternatives to commuting in the single-occupant vehicle. Includes funding to conduct employer transportation coordinator training classes, market ridesharing to the media and employers, and outreach programs to employers.
TCM 10	Develop Information Program for Local Governments	This TCM consists of providing information to local governments and developers detailing the role of local governments in addressing commute transportation and providing technical assistance.
TCM 11	Gasoline Conservation and Awareness Program (GasCap)	The GasCap program was funded by the California Energy Commission, sponsored by Caltrans and administered by the West Valley College. It entailed a training program oriented towards large vehicle fleets to teach proper driving techniques, vehicle maintenance and trip planning. It was discontinued in 1984. The California Energy Commission is continuing a GasCap type program by training large public agency fleet managers in methods to reduce fuel consumption.
TCM 12	Santa Clara Commuter Transportation Program	This TCM consists of the commuter program adopted by Santa Clara County in 1982. It consists of a ridesharing program, express bus service, park-and-ride lots, upgrading Southern Pacific (CalTrain) service and HOV lanes

Table A-1: Transportation Control Measures in the
Federal Air Quality and Maintenance Plan for the Bay Area

TCM 13	Increase bridge tolls to $1.00 on all bridges.	Would raise tolls to $1.00 on the Antioch, Bay, Benicia and Carquinez bridges.
TCM 14	Bay Bridge surcharge of $1.00	Increase Bay Bridge toll to $2.00 to discourage single occupant automobile use and improve transit.
TCM 15	Increase state gas tax by 9 cents	Raise State gasoline taxes from 9 cents to 18 cents per gallon. This measure takes credit for emission reductions due to a full 9 cent increase, phased in by 1995.
TCM 16	Implement MTC Resolution No. 1876, Revised—New Rail Starts Agreement	Complete the $3.5 billion, 6 rail extension program by securing State and Federal funds for program. Only takes credit for emission reduction from a future BART extension to Colma.
TCM 17	Continue post-earthquake transit service	Continuation of ferry service initiated after the October 1989 earthquake and the expanded BART peak period service.
TCM 18	Sacramento-Bay Area Amtrak service	Implement near-term improvements recommended in ACR 132 Rail Study. Assumes three trains in each direction between Sacramento and the Bay Area.
TCM 19	Upgrade CalTrain service	Increase service frequency to 66 trains per day. Extend service to Gilroy.
TCM 20	Regional High Occupancy Vehicle (HOV) Lane System Plan	Expand and improve HOV concept first proposed in TCM 4 by developing and implementing the HOV Lane Master Plan. Includes 221 directional miles of HOV lanes.
TCM 21	Regional Transit Coordination	Includes multiple coordination initiatives: fare coordination, service coordination.
TCM 22	Expand Regional Transit Connection (RTC) ticket distribution	Expand on-going MTC program to provide a regional clearinghouse for sale of transit tickets to employers; encourage employers to subsidize tickets.

continued . . .

(Cont'd.)

Table A-1: Transportation Control Measures in the Federal Air Quality and Maintenance Plan for the Bay Area

TCM 23	Employer audits	Development of a program to review the TSM programs of selected employers in the region and to suggest actions to enhance programs. Will target specific large or mid-size employers and small employers for improved commute alternatives program.
TCM 24	Expand signal timing program to new cities	Establishes a program to provide technical assistance to cities in the form of traffic monitoring, design of signal timing plans, and hardware improvements.
TCM 25	Maintain existing signal timing programs for local streets	Involves the provision of technical assistance to cities for periodic program adjustments and coordination with adjacent cities.
TCM 26	Incident management on Bay Area freeways	Incident management is part of Caltrans' Traffic Operations Systems (TOS). Assumes emission reductions from the initial phases of TOS on the approaches to the Bay Bridge.
TCM 27	Update MTC guidance on development of local TSM programs	MTC report "Key Considerations for Developing Local Government TSM Programs" (December 1988) contains guidance on developing TSM programs and would be updated.
TCM 28	Local Transportation Systems Management (TSM) initiatives	This TCM accounts for effects of new initiatives, such as Golden Triangle Task Force and Contra Costa County Growth Management Program.

Table A-2: Transportation Control Measures Adopted by the Bay Area Air Quality Management District in the 1994 Bay Area Clean Air Plan to Meet the California Clean Air Act

	STATE TCMs	DESCRIPTION
TCM 1	Expand employer assistance programs	Assist with training employee transportation coordinators and city/county transportation demand management coordinators; with starting-up transportation management associations; and with telecommuting programs, employee commute surveys, vanpool programs.
TCM 2	Adopt employer-based trip reduction rule	BAAQMD to implement regional employer-based trip reduction rule.
TCM 3	Improve areawide transit service	Increase local bus service; continue post-earthquake increase in BART service; expand rail service; upgrade CalTrain service.
TCM 4	Expedite and expand regional rail agreement	Based on MTC Resolution No. 1876, revised.
TCM 5	Improve access to rail and ferry transit stations	Improve feeder bus service and bicycle access; at transit stations add parking and encourage preferential parking for electric vehicles; add private shuttles from transit stations to employment centers.
TCM 6	Improve intercity rail service	Implement new intercity rail service in Auburn-Sacramento-Oakland-San Jose corridor
TCM 7	Improve ferry service	Per MTC Regional Ferry Plan.
TCM 8	Construct carpool/express bus lanes on freeways.	Based on "2005 HOV Master Plan".
TCM 9	Improve bicycle access and facilities	Maintain Bicycle Advisory Committees and comprehensive bicycle plans; encourage bicycles on transit vehicles and on all bridges; encourage employers and developers to provide bicycle access and facilities.
TCM 10	Youth transportation	Allocate funds for discount youth transit tickets; encourage carpooling among students; convert school buses to clean-fuel vehicles.
TCM 11	Install freeway Traffic Operations System (TOS)	TOS includes traffic surveillance, traffic advisory signs, incident management, ramp metering; develop automated electronic toll collection facilities.

continued

(Cont'd.)

Table A-2: Transportation Control Measures Adopted by the Bay Area Air Quality Management District in the Bay Area Clean Air Plan to Meet the California Clean Air Act

	STATE TCMs	DESCRIPTION
TCM 12	Improve arterial traffic management	Expand local signal timing programs for cities; study signal pre-emption for buses. Develop MTS Management Strategy. Improve arterials for buses and bicycles.
TCM 13	Transit use incentives	Improve coordination between transit operators regarding routes, schedules, transfers, fares; expand distribution of transit passes and tickets; consider fare reductions on off-peak.
TCM 14	Improve Rideshare/Vanpool Services and Incentives	Enhance ridesharing marketing services and provide incentives to vanpool and carpool. Examine opportunities to reduce vanpool vehicle acquisition and operation costs.
TCM 15	Local Clean Air Plans, Policies and Programs	Encourage cities and counties to incorporate air quality beneficial policies and programs into local planning and development activities, with a particular focus on subdivision, zoning and site design measures that reduce the number and length of single-occupant automobile trips.
TCM 16	Intermittent Control Measure/Public Education	Encourage public to reduce motor vehicle use on days of predicted ozone exceedances through "Spare the Air" program. Continue public education program to inform Bay Area residents about status of regional air quality, health effects of air pollution, sources of pollution, and measures that individuals and communities can take to help improve air quality.
TCM 17	Conduct Demonstration Projects	Promote demonstration projects to develop new strategies to reduce motor vehicle emissions. Potential projects will include telecommuting and electronic toll collection.

(Continued)

Table A-2: Transportation Control Measures Adopted by the Bay Area Air Quality Management District in the Bay Area Clean Air Plan to Meet the California Clean Air Act

	STATE TCMs	DESCRIPTION

TCM 18	Implement Revenue Measures	Develop revenue measures needed to fund implementation of mobility improvement and user incentives:
		- Regional gas tax of 5.10
		  - Continuation of CMAQ
		  - Convert State Transit Capital Improvement (TCI) Program into a formula program.

TCM 19	Implement Market Based Pricing Measures	Measures would be based on:
		- "Smog Fee": vehicle registration fee based on emissions and miles driven.
		- Gas Tax increase
		  - Consider expanding congestion pricing upon successful completion of Bay Bridge congestion pricing demonstration project
		  - Encourage expansion of parking cash-out programs.
		Use revenues for transportation alternatives and equity programs.

Appendix B: MTC Checklist for Modeling Consistency for CMPs

Overall approach

MTC's goal is to establish a regionally consistent model "set" for application by MTC and the CMAs. The Partnership has finalized a report on modeling consistency issues recommending MTC develop and the CMAs incorporate a consistent set of model components on desktop computers (termed BAYCAST). For immediate use for the 1997 CMPs, the study recommended that the current Checklist format be utilized, and proposed specific tolerances. This revised Checklist incorporates the results of testing those specific tolerances, as well as additional analyses.

Checklist

This Checklist is intended to guide the CMAs through their model development and consistency review process by providing an inventory of specific products to be developed and submitted to MTC, and by describing standard practices and assumptions to be followed. Rural counties are not subject to Products 3, 5, 12, and 15, although the assumptions used should be described.

Because of the complexity of the topic, the Checklist may need to be complemented by additional detailed information to explain differences in methodological approach or data. Significant differences will be resolved between MTC and the CMA, taking advantage of the Modeling Coordination Working Group. Standard formats for model comparisons will be developed.

Incremental updates

The CMA forecasts must be updated every two years to be consistent with MTC's forecasts. Alternative approaches to fully rerunning the entire model are available, including incremental approaches through the application of factors to demographic inputs or to trip tables. Similarly, the horizon year must be the same as the TIP horizon year, however, interpolation and extrapolation approaches are acceptable, with appropriate attention to network changes. These alternatives to full re-running of the model should be reviewed with MTC.

Defining the MTC model sets

Unless otherwise specified, the MTC model sets referred to below will be defined as those in use on October 1st of the year preceding the CMP update.

Using MTC Data for Key Assumptions

Key "bundles of assumptions" are needed for developing travel forecasts. These assumptions are related to: Pricing Assumptions; Demographic Assumptions; Travel Behavior Assumptions; and

Highway and Transit Network Assumptions headways). Detailed information about these assumptions are available from the internet at the following address:

http://www.mtc.dst.ca.us/planning/forecast/assume96.htm

A. Discuss the General Approach to Travel Demand Modeling by the CMA
Describe the model, and its relationship to the MTC model. If the model is based on MTC's model, describe any adjustments to model constants, coefficients, k-factor or friction factor re-estimation, market segmentation, and trip purposes, etc.

PRODUCT 1: Description of the above.

B. Demographic/Economic/Land Use Forecasts:
Use exact ABAG Projections for other Bay Area counties, and control totals (within 1 percent) for the county for population, households, jobs and employed residents. CMAs may reallocate growth forecasts within their own county in consultation with cities, MTC and ABAG. The latest set of ABAG's Projections must be used for all new demographic databases developed for baseline travel demand forecasting purposes after August 1 of the year preceding the CMP update. Future year forecasts should address the latest available ABAG Projection series. MTC, in consultation with the MCWG, will develop factors that may be used to achieve consistency with the most recent ABAG demographics. CMAs may also, of course, analyze alternative land use scenarios in addition to these forecasts. If a land use based model is utilized, production and attraction comparisons will be made with the MTC model.

PRODUCT 2: Summary sheet comparing ABAG Projections economic and demographic data (using the most current series) and CMP input data for population, households, jobs and employed residents for the 9 Bay Area counties for the base and forecast years (the year for comparison to the appropriate TIP must be included), and a statement establishing that the differences between the ABAG variables and those of the CMA input file do not exceed 1 percent at the county level for the subject county, and that no differences exist for the other 8 counties for a base case scenario.

C. Pricing Assumptions:
Use MTC's auto operating costs, transit fares, and bridge tolls.

PRODUCT 3: Statements establishing satisfaction of the above.

D. Network Assumptions:

Use MTC's regional highway and transit network assumptions for the other Bay Area counties. CMAs should include more detailed network definition relevant to their own county in addition to the regional highway and transit networks. For the CMP horizon year, to be compared with the TIP interim year, regionally significant network changes in the base case scenario shall be limited to the current Transportation Improvement Program (TIP) for projects subject to inclusion in the TIP.

PRODUCT 4: Statement establishing satisfaction of the above.

E. **Auto Ownership Assumptions:**
Use MTC auto ownership models or forecasts, or submit alternative models to MTC for review and comment.

PRODUCT 5: County and district level table(s) showing households by vehicle ownership level (0, 1, 2+ vehicle/household), and autos per household summaries at county and district levels, or autos per worker and total autos by district, and other pertinent auto ownership data if more appropriate. (Note that the term "district" used in these Guidelines may be interpreted as either MTC superdistricts or CMA defined districts.)

F. **Trip Generation:**
Use the regional person trip generation models for home-based work and non-work, and non-home based trips, or submit alternative models to MTC for review and comment. Results may be adjusted sub-regionally through calibration or modal constant adjustments.

PRODUCTS: 6) County and district level table(s) summarizing trip productions and trip attractions out of the trip generation model. Differences in trip productions and attractions for total person trips and for home based work trips should be no greater than 1% or 10,000 trips, whichever is higher, for comparisons for the subject county, each other county, and overall for the region or study area. For rural counties, figures are to be within 10% deviation for daily home based vehicle trips, using conversion factors as appropriate. Base year comparisons should be made with the Census data when available and appropriate.

7) Trip rate analysis, including home-based work trips per employed resident, home-based non-work trips per household, and non-home-based trips per total job.

8) Description of sub-regional adjustment factors, if any.

G. Trip Distribution:

Work trip distribution models must be calibrated to the 1990 Census Journey-to-Work commuter matrices. Trip distribution results must be balanced to productions, and attraction balancing problems should be discussed with MTC.

MTC, in consultation with the MCWG, will develop factors that may be used to achieve consistency with the most recent MTC trip distribution tables.

PRODUCTS: 9) County and district level table(s) showing attraction balancing analysis, i.e., comparison of "modeled" attractions from the trip distribution model to "desired" attractions from the trip generation (trip attraction) models.

10) County-to-county level trip tables. Differences in trip productions and attractions for total person trips and for home based work trips from and to the subject county should be no greater than 5% or 10,000 trips, whichever is higher, for comparisons for the subject county, interactions with each other county, and overall for the regional interaction with the subject county. For rural counties, CMAs should develop appropriate comparisons to MTC's model system, in consultation with MTC, using conversion factors as appropriate. Base year comparisons should be made with the Census data when available and appropriate.

11) District-to-district level trip tables for intra-county trips.

All trip distribution analyses are to be stratified by trip purpose.

H. Mode Choice:

If a logit mode choice model is to be used, MTC's models entitled "SW" or "TW" for work trips, and MTC's mode choice models for home-based shop, home-based social recreational and non-home-based trip purposes should be used, or submit alternative methodology for MTC review.

PRODUCTS: 12) County-to-county and district-to-district (intra-county) level table(s) showing mode choice forecasts by trip purpose and travel mode. There is no need to document the county-to-county mode choice forecasts for trips that do not start, end, or pass through the particular county of interest.

13) Vehicle trip tables, county-to-county and intra-county district-to-district, stratified by trip purpose.

Differences in trips for drive alone for total daily person trips and for home based work trips from and to the subject county should be no greater than 10% or 10,000 trips, whichever is higher, for each county interaction, and overall for the region/study area. For rural counties, conversion factors may be needed.

Differences in trips for transit, shared ride 3+, and shared ride 2 for total person trips and for home based work trips from and to the subject county should be no greater than 10,000 trips for each county interaction, and 10% overall for the region/study area.

Base year comparisons should be made with the Census data when available and appropriate.

I. Traffic Assignment

Use capacity restrained assignment for peak hour traffic assignments, or submit alternative methodology for MTC review.

PRODUCTS: 14) Description of trip assignment methodology for daily and/or peak hour (period) assignment for both transit and highway.

15) Describe peaking factors and vehicle occupancy assumptions utilized.

Alternatively, CMAs may elect to utilize MTC zone to zone person/vehicle trip tables, adding network and zonal details within the county as appropriate, and then re-run the assignment. In this case, only Products 14 and 15 are applicable if vehicle trip tables are utilized, and additionally Products 12 and 13 if person trip tables are utilized.

CMAs that used MTC zone-to-zone person/vehicle trip tables for the 1995 CMP model may use factors developed by MTC to establish consistent trip tables for the 1997 CMP models, and to interpolate to the TIP horizon year.

APPENDIX II

California Government Codes Referencing Congestion Management Programs

CMP Legislation as Amended in Assembly Bills 1963 & 2419
Senate Bill 45 - STIP Reform Bill (Kopp)

THIS PAGE
INTENTIONALLY LEFT BLANK

CMP Legislation
As Amended In Assembly Bills 1963 & 2419

The people of the State of California do enact as follows:

65088.1. As used in this chapter the following terms have the following meanings:

(a) Unless the context requires otherwise, "regional agency" means the agency responsible for preparation of the regional transportation improvement program.

(b) Unless the context requires otherwise, "agency" means the agency responsible for the preparation and adoption of the congestion management program.

(c) "Commission" means the California Transportation Commission.

(d) "Department" means the Department of Transportation.

(e) "Local jurisdiction" means a city, a county, or a city and county.

(f) "Parking cash-out program" means an employer-funded program under which an employer offers to provide a cash allowance to an employee equivalent to the parking subsidy that the employer would otherwise pay to provide the employee with a parking space. "Parking subsidy" means the difference between the out-of-pocket amount paid by an employer on a regular basis in order to secure the availability of an employee parking space not owned by the employer and the price, if any, charged to an employee for use of that space.

A parking cash-out program may include a requirement that employee participants certify that they will comply with guidelines established by the employer designed to avoid neighborhood parking problems, with a provision that employees not complying with the guidelines will no longer be eligible for the parking cash-out program.

(g) "Urbanized area" has the same meaning as is defined in the 1990 federal census for urbanized areas of more than 50,000 population.

(h) "Interregional travel" means any trips that originate outside the boundary of the agency. A "trip" means a one-direction vehicle movement. The origin of any trip is the starting point of that trip. A roundtrip consists of two individual trips.

(i) "Multimodal" means the utilization of all available modes of travel that enhance the movement of people and goods, including, but not limited to, highway, transit, nonmotorized and demand management strategies including, but not limited to, telecommuting. The availability and practicality of specific multimodal systems, projects, and strategies varies by county and region in accordance with the size and complexity of different urbanized areas.

(j) "Level of service standard" is a threshold that defines a deficiency on the congestion management program highway and road system which requires the preparation of a deficiency plan. It is the intent of the Legislature that the agency shall use all elements of the program to implement strategies and actions that avoid the creation of deficiencies and to improve multimodal mobility.

(k) "Performance measure" is an analytical planning tool that is used to quantitatively evaluate transportation improvements, and to assist in determining effective implementation actions, considering all modes and strategies. Use of a performance measure as part of the program does not trigger the requirement for the preparation of deficiency plans.

65088.3. This chapter does not apply in a county in which a majority of local governments, collectively comprised of the city councils and the county board of superivsors, which in total also represent a majority of the population in the county,

each adopt resolutions electing to be exempt from the congestion management program.

65088.5 Congestion management programs, if prepared by county transportation commissions and transportation authorities created pursuant to Division 12 (commencing with Section 130000) of the Public Utilities Code, shall be used by the regional transportation planning agency to meet federal requirements for a congestion managment system, and shall be incorporated into the congestion management system.

65089. (a) A congestion management program shall be developed, adopted, and updated biennially consistent with the schedule for adopting and updating the regional transportation improvement program, for every county that includes an urbanized area, and shall include every city and the county. The program shall be adopted at a noticed public hearing of the agency. The program shall be developed in consultation with, and with the cooperation of, the transportation planning agency, regional transportation providers, local governments, the department, and the air pollution control district or the air quality management district, either by the county transportation commission, or by another public agency, as designated by the resolutions adopted by the county board of supervisors and the city councils of a majority of the cities representing a majority of the population in the incorporated area of the county.

(b) The program shall contain all of the following elements:

(1) (A) Traffic level of service standards established for a system of highways and roadways designated by the agency. The highway and roadway system shall include at a minimum all state highways and principal arterials. No highway or roadway designated as a part of the system shall be removed from the system. All new state highways and principal arterials shall be designated as part of the system. Level of service (LOS) shall be measured by Circular 212, by the most recent version of the Highway Capacity Manual, or by a uniform methodology adopted by the agency which is consistent with the Highway Capacity Manual. The determination as to whether an alternative method is consistent with the Highway Capacity Manual shall be made by the regional agency, except that the department shall make this determination instead if either (i) the regional agency is also the agency, as those terms are defined in Section 65088.1, or (ii) the department is responsible for preparing the regional transportation improvement plan for the county.

(B) In no case shall the LOS standards established be below the level of service E or the current level, whichever is farthest from level of service A. When the level of service on a segment or at an intersection fails to attain the established level of service standard, a deficiency plan shall be adopted pursuant to Section 65089.4.

(2) A performance element that includes performance measures to evaluate current and future multimodal system performance for the movement of people and goods. At a minimum, these performance measures shall incorporate highway and roadway system performance, and measures established for the frequency and routing of public transit, and for the coordination of transit service provided by separate operators. These performance measures shall support mobility, air quality, land use, and economic objectives, and shall be used in the development of the capital improvement program required pursuant to paragraph (5), deficiency plans required pursuant to Section 65089.4, and the land use analysis program required pursuant to paragraph (4).

(3) (A) A travel demand element that promotes alternative transportation methods, including, but not limited to, carpools, vanpools, transit, bicycles, and park-and-ride lots; improvements in the balance between jobs and housing; and other strategies, including, but not limited to, flexible work

hours, telecommuting, and parking management programs. The agency shall consider parking cash-out programs during the development and update of the travel demand element.

(4) A program to analyze the impacts of land use decisions made by local jurisdictions on regional transportation systems, including an estimate of the costs associated with mitigating those impacts. This program shall measure, to the extent possible, the impact to the transportation system using the performance measures described in paragraph (2). In no case shall the program include an estimate of the costs of mitigating the impacts of interregional travel. The program shall provide credit for local public and private contributions to improvements to regional transportation systems. However, in the case of toll road facilities, credit shall only be allowed for local public and private contributions which are unreimbursed from toll revenues or other state or federal sources. The agency shall calculate the amount of the credit to be provided. The program defined under this section may require implementation through the requirements and analysis of the California Environmental Quality Act, in order to avoid duplication.

(5) A seven-year capital improvement program, developed using the performance measures described in paragraph (2) to determine effective projects that maintain or improve the performance of the multimodal system for the movement of people and goods, to mitigate regional transportation impacts identified pursuant to paragraph (4). The program shall conform to transportation-related vehicle emission air quality mitigation measures, and include any project that will increase the capacity of the multimodal system. It is the intent of the Legislature that, when roadway projects are identified in the program, consideration be given for maintaining bicycle access and safety at a level comparable to that which existed prior to the improvement or alternation. The capital improvement program may also include safety, maintenance, and rehabilitation projects that do not enhance the capacity of the system but are necessary to preserve the investment in existing facilities.

(c) The agency, in consultation with the regional agency, cities, and the county, shall develop a uniform data base on traffic impacts for use in a countywide transportation computer model and shall approve transportation computer models of specific areas within the county that will be used by local jurisdictions to determine the quantitative impacts of development on the circulation system that are based on the countywide model and standardized modeling assumptions and conventions. The computer models shall be consistent with the modeling methodology adopted by the regional planning agency. The data bases used in the models shall be consistent with the data bases used by the regional planning agency. Where the regional agency has jurisdiction over two or more counties, the data bases used by the agency shall be consistent with the data bases used by the regional agency.

(d) (1) The city or county in which a commercial development will implement a parking cash-out program which is included in a congestion management program pursuant to subdivision (b), or in a deficiency plan pursuant to Section 65089.4, shall grant to that development an appropriate reduction in the parking requirements otherwise in effect for new commercial development.

(2) At the request of an existing commercial development that has implemented a parking cash-out program, the city or county shall grant an appropriate reduction in the parking requirements otherwise applicable based on the demonstrated reduced need for parking, and the space no longer needed for parking purposes may be used for other appropriate purposes.

(e) Pursuant to the federal Intermodal Surface Transportation Efficiency Act of 1991 and regulations adopted pursuant to the act, the department shall submit a request to

the Federal Highway Administration Division Administrator to accept the congestion management program in lieu of development of a new congestion management system otherwise required by the act.

65089.1 (a) For purposes of this section, "plan: means a trip reduction plan or a related or similar proposal submitted by an employer to a local public agency for adoption of approval that is designed to facilitate employee ridesharing, the use of public transit, and other measns of travel that do not employ a single-occupant vehicle.

(b) An agnecy may require an employer to provide rideshare data bases; an emergency ride program; a preferential parking program; a transportation information program; a parking cash-out program, as defined in subdivision (f) of Section 65088.1; a public transit subsidy in an amount to be determined by he empoyler; bicycle parking areas; and other noncash value programs w""""hich encourage or facilate the use of alternatives to driving alone. An employer may offer, but no agency shall require an employer to offer, cash, prizes, or items with cash value to employees to encourage participation in a trip reduction program as a condition of approving a plan.

(c) Employers shall provide employees reasonable notice of the content of a proposed plan and shall provide the employees an opportunity to comment prior to submittal of the plan to the agency for adoption.

(d) Each agency shall modify existing programs to conform to this section not later than June 30, 1995. Any plan adopted by an agency prior to January 1, 1994, shall remain in effect until adoption by the agency of a modified plan pursuant to this section.

(e) Employers may include disincentives in their plans that do not create a widespread and substantial disproportionate impact on ethnic or racial minorities, women, or low-income or disabled employees.

(f) This section shall not be interpredted to relieve any employer of the responsibility to prepare a plan that conforms with trip reduction goals specified in Division 26 (commencing with Section 39000) of the Health and Safety Code, or the Clean Air Act (42 U.S.C. Sec. 7401 et seq.).

(g) This section only applies to agencies and employers within the South Coast Air Quality Managment District.

65089.2. (a) Congestion management programs shall be submitted to the regional agency. The regional agency shall evaluate the consistency between the program and the regional transportation plans required pursuant to Section 65080. In the case of multicounty regional transportation planning agency, that agency shall evaluate the consistency and compatibility of the programs within the region.

(b) The regional agency, upon finding that the program is consistent, shall incorporate the program into the regional transportation improvement program as provided for in Section 65082. If the regional agency finds the program is inconsistent, it may exclude any project in the congestion management program from inclusion in the regional transportation improvement program.

(c) (1) The regional agency shall not program any surface transportation program funds and congestion mitigation and air quality funds pursuant to Section 182.6 and 182.7 of the Streets and Highways Code in a county unless a congestion management program has been adopted by December 31, 1992, as required pursuant to Section 65089. No surface transportation program funds or congestion mitigation and air quality funds shall be programmed for a project in a local jurisdiction that has been found to be in nonconformance with a congestion management program pursuant to Section 65089.5 unless the agency finds that the

project is of regional significance.

(2) Notwithstanding any other provision of law, upon the designation of an urbanized area, pursuant to the 1990 federal census or a subsequent federal census, within a county which previously did not include an urbanized area, a congestion management program as required pursuant to Section 65089 shall be adopted within a period of 18 months after designation by the Governor.

(d) (1) It is the intent of the Legislature that the regional agency, when its boundaries include areas in more than one county, should resolve inconsistencies and mediate disputes which arise between agencies related to congestion management programs adopted for those areas.

(2) It is the further intent of the Legislature that disputes which may arise between regional agencies, or agencies which are not within the boundaries of a multicounty regional transportation planning agency, should be mediated and resolved by the Secretary of the Business, Housing and Transportation Agency, or an employee of that agency designated by that secretary, in consultation with the air pollution control district or air quality management district within whose boundaries the regional agency or agencies are located.

(e) At the request of the agency, a local jurisdiction that owns, or is responsible for operation of, a trip-generating facility in another county shall participate in the congestion managment program of the county where the facility is located. If a dispute arises involving a local jurisdiction, the agency may request the regional agency to mediate the dispute through procedures pursuant to subdivision (d) of Section 65089.2. Failure to resolve the dispute does not invalidate the congestion management program.

65089.3. The agency shall monitor the implementation of all elements of the congestion management program. The department is responsible for data collection and analysis on state highways, unless the agency designates that responsibility to another entity.

The agency may also assign data collection and analysis responsibilities to other owners and operators of facilities or services if the responsibilities are specified in its adopted program. The agency shall consult with the department and other affected owners and operators in developing data collection and analysis procedures and schedules prior to program adoption. At least biennially, the agency shall determine if the county and cities are conforming to the congestion management program, including, but not limited to, all of the following:

(a) Consistency with levels of service standards, except as provided in Section 65089.4.

(b) Adoption and implementation of a program to analyze the impacts of land use decisions, including the estimate of the costs associated with mitigating these impacts.

(c) Adoption and implementation of a deficiency plan pursuant to Section 65089.4 when highway and roadway level of service standards are not maintained on portions of the designated system.

65089.4. (a) A local jurisdiction shall prepare a deficiency plan when highway or roadway level of service standards are not maintained on segments or intersections of the designated system. The deficiency plan shall be adopted by the city or county at a noticed public hearing.

(b) The agency shall calculate the impacts subject to exclusion pursuant to subdivision (f) of this section, after consultation with the regional agency, the department, and the local air quality management district or air pollution control district. If the calculated traffic level of service following exclusion of these impacts is consistent with the level of

service standard, the agency shall make a finding at a publicly noticed meeting that no deficiency plan is required and so notify the affected local jurisdiction.

(c) The agency shall be responsible for preparing and adopting procedures for local deficiency plan development, implementation responsibilities, consistent with the requirements of this section. The deficiency plan shall included all of the following:

(1) An analysis of the causes of the deficiency. The analysis shall include the following:

(A) Identification of the cause of the deficiency.

(B) Identification of the impacts of those local jurisdictions within the jurisdiction of the agency that contribute to the deficiency. These impacts shall be identified only if the calculated traffic level of service following exclusion of impacts pursuant to subdivision (f) indicates that the level of service standard has not been maintained, and shall be limited to impacts not subject to exclusion.

(2) A list of improvements necessary for the deficient segment or intersection to maintain the minimum level of service otherwise required and the estimated costs of the improvements.

(3) A list of improvements, programs, or actions, and estimates of costs, that will (A) measurably improve multimodal performance, using measures defined in paragraphs (1) and (2) of subdivision (b) of Section 65089, and (B) contribute to significant improvements in air quality, such as improved public transit service and facilities, improved non motorized transportation facilities, high occupancy vehicle facilities, parking cash-out programs, and transportation control measures. The air quality management district or the air pollution control district shall establish and periodically revise a list of approved improvements, programs, and actions which meet the scope of this paragraph. If an improvement, program or action is on the approved list and has not yet been fully implemented, it shall be deemed to contribute to significant improvements in air quality. If an improvement, program, or action is not on the approved list, it shall not be implemented unless approved by the local air quality management district or air pollution control district.

(4) An action plan, consistent with the provisions of Chapter 5 (commencing with Section 66000), that shall be implemented, consisting of improvements identified in paragraph (2), or improvements, programs, or actions identified in paragraph (3), that are found by the agency to be in the interest of the public health, safety and welfare. The action plan shall include a specific implementation schedule. The action plan shall include implementation strategies for those jurisdictions that have contributed to the cause of the deficiency in accordance with the agency's deficiency plan procedures. The action plan need not mitigate the impacts of any exclusion identified in subdivision (f). Action plan strategies shall identify the most effective implementation strategies for improving current and future system performance.

(d) A local jurisdiction shall forward its adopted deficiency plan to the agency within 12 months of the identification of a deficiency. The agency shall hold a noticed public hearing within 60 days of receiving the deficiency plan. Following the hearing, the agency shall either accept or reject the deficiency plan in its entirety, but the agency may not modify the deficiency plan. If the agency rejects the plan, it shall notify the local jurisdiction of the reasons for that rejection, and the local jurisdiction shall submit a revised plan within 90 days addressing the agency's concerns. Failure of a local jurisdiction to comply with the schedule and requirements of this section shall be considered to be nonconformance for the purposes of Section 65089.5.

(e) The agency shall incorporate into its deficiency plan procedures, a methodology for determining if deficiency

impacts are caused by more than one local jurisdiction within the boundaries of the agency.

(1) If, according to the agency's methodology, it is determined that more than one local jurisdiction is responsible for causing a deficient segment or intersection, all responsible local jurisdictions shall participate in the development of a deficiency plan to be adopted by all participating local jurisdictions.

(2) The local jurisdiction in which the deficiency occurs shall have lead responsibility for developing the deficiency plan and for coordinating with other impacting local jurisdictions. If a local jurisdiction responsible for participating in a multi-jurisdictional deficiency plan does not adopt the deficiency plan in accordance with the schedule and requirements of paragraph (a) of this section, that jurisdiction shall be considered in nonconformance with the program for purposes of Section 65089.5.

(3) The agency shall establish a conflict resolution process for addressing conflicts or disputes between local jurisdictions in meeting the multi-jurisdictional deficiency plan responsibilities of this section.

(f) The analysis of the cause of the deficiency prepared pursuant to paragraph (1) of subdivision (c) shall exclude the following:

(1) Interregional travel.

(2) Construction, rehabilitation, or maintenance of facilities that impact the system.

(3) Freeway ramp metering.

(4) Traffic signal coordination by the state or multijurisdictional agencies.

(5) Traffic generated by the provision of low and very low income housing.

(6)(A) Traffic generated by high density residential development located within one-fourth of a mile of a fixed rail passenger station.

(B) Traffic generated by any mixed use development located within one-fourth of a mile of a fixed rail passenger station, if more than half of the land area, or floor area, of the mixed use development is used for high density residential housing, as determined by the agency.

(g) For the purposes of this section, the following terms have the following meanings:

(1) "High density" means residential density development which contains a minimum of 24 dwelling units per acre and a minimum density per acre which is equal to or greater than 120 percent of the maximum residential density allowed under the local general plan and zoning ordinance. A project providing a minimum of 75 dwelling units per acre shall automatically be considered high density.

(2) "Mixed use development" means development which integrates compatible commercial or retail uses, or both, with residential uses, and which, due to the proximity of job locations, shopping opportunities, and residences, will discourage new trip generation.

65089.5. (a) If, pursuant to the monitoring provided for in Section 65089.3, the agency determines, following a noticed public hearing, that a city or county is not conforming with the requirements of the congestion management program, the agency shall notify the city or county in writing of the specific areas of nonconformance. If, within 90 days of the receipt of the written notice of nonconformance, the city or county has not come into conformance with the congestion management program, the governing body of the agency shall make a finding of nonconformance and shall submit the finding to the commission and to the Controller.

(b)(1) Upon receiving notice from the agency of nonconformance, the Controller shall withhold apportionments of funds required to be apportioned to that nonconforming city or county by Section 2105 of the Streets and Highways Code.

(2) If, within the 12-month period following the receipt of a notice of nonconformance, the Controller is notified by the agency that the city or county is in conformance, the Controller shall allocate the apportionments withheld pursuant to this section to the city or county.

(3) If the Controller is not notified by the agency that the city or county is in conformance pursuant to paragraph (2), the Controller shall allocate the apportionments withheld pursuant to this section to the agency.

(c) The agency shall use funds apportioned under this section for projects of regional significance which are included in the capital improvement program required by paragraph (5) of subdivision (b) of Section 65089, or in a deficiency plan which has been adopted by the agency. The agency shall not use these funds for administration or planning purposes.

65089.6. Failure to complete or implement a congestion management program shall not give rise to a cause of action against a city or county for failing to conform with its general plan, unless the city or county incorporates the congestion management program into the circulation element of its general plan.

65089.7. A proposed development specified in a development agreement entered into prior to July 10, 1989, shall not be subject to any action taken to comply with this chapter, except actions required to be taken with respect to the trip reduction and travel demand element of a congestion management program pursuant to paragraph (3) of subdivision (b) of Section 65089.

65089.9. The study steering committee established pursuant to Section 6 of Chapter 444 of the Statutes of 1992 may designate at least two congestion management agencies to participate in a demonstration study comparing multimodal performance standards to highway level of service standards. The department shall make available, from existing resources, fifty thousand dollars ($50,000) from the Transportation Planning and Development Account in the State Transportation Fund to fund each of the demonstration projects. The designated agencies shall submit a report to the Legislature not later than June 30, 1997, regarding the findings of each demonstration project.

65089.10. Any congestion management agency that is located in the Bay Area Air Quality Management District and recieved funds pursuant to Section 44241 of the Health and Safety Code for the purpose of implementing paragraph (3) of subdivision (b) of Section 65089 shall ensure that those funds are expended as part of an overall program for improving air quality and for the purposes of this chapter.

CHAPTER 622

An act to amend Sections 14523, 14524, 14525, 14526, 14527, 14530.1, 14531, 14536, 65081.1, 65082, 65083, and 65086 of, to add Sections 14529.1, 14529.8, 14529.12, and 14529.15 to, to repeal and add Sections 14520.3, 14529, 65080, and 65086.4 of, and to repeal Sections 14524.5, 14529.01, 14529.2, 14529.6, 14530.5, 14555, 65071, and 65081 of, the Government Code, to amend Sections 99310, 99312, and 99315 of, and to repeal Sections 99315.5, 99315.6, 99318, and 99318.2 of, the Public Utilities Code, and to amend Sections 164.3, 167, 188, and 188.8 of, to amend and repeal Sections 2601, 2602, and 2602.1 of, to add Sections 164.6 and 188.10 to, to repeal and add Sections 163, 164, and 182.5 of, and to repeal Sections 164.2, 164.4, 164.35, 164.50, 164.51, 164.52, 164.55, 164.57, 168, 182.4, 182.8, 188.9, 199, 199.1, 199.2, 199.3, 199.4, 199.6, 199.7, 199.8, 199.9, 199.10, 199.11, and 2600 of, the Streets and Highways Code, relating to transportation.

[Approved by Governor October 2, 1997. Filed with Secretary of State October 3, 1997.]

LEGISLATIVE COUNSEL'S DIGEST

SB 45, Kopp. Transportation funding.

Existing law prescribes a process for estimating the amount of state and federal funds to be available for transportation projects in the state, and for appropriating and allocating the available funds to those projects.

This bill would substantially revise that process, by changing the 7-year state transportation improvement program to a 4-year program, changing the components of the regional and state transportation improvement programs, changing the name of the Transportation Planning and Development Account to the Public Transportation Account, and making changes in the way funds are allocated from that account. The bill would declare the Legislature's intent regarding budget estimates by the Department of Transportation and the California Transportation Commission based on specified factors. The bill would eliminate various transportation-related programs, including traffic systems management, flexible congestion relief, commuter and urban rail transit, and the state-local transportation partnership program. The bill would provide that the department is continued as the responsible agency for the state highway system, as specified.

This bill would provide that by the enactment of this bill, the Legislature intends that nothing contained in this bill shall be construed to expand or restrict the authority or responsibility of the

department to perform the components developed in the state transportation improvement program. The bill would make related changes.

This bill would incorporate additional changes in Section 14524 of the Government Code proposed by AB 87, to be operative only if AB 87 and this bill are both enacted and become effective on or before January 1, 1998, and this bill is enacted last.

This bill would incorporate additional changes in Section 14525 of the Government Code proposed by AB 87, to be operative only if AB 87 and this bill are both enacted and become effective on or before January 1, 1998, and this bill is enacted last.

The people of the State of California do enact as follows:

SECTION 1. Section 14520.3 of the Government Code is repealed.

SEC. 1.1. Section 14520.3 is added to the Government Code, to read:

14520.3. (a) The Legislature, through the enactment of Senate Bill 45 during the 1997–98 Regular Session, intends to establish priorities and processes for the programming and expenditure of state transportation funds that are at the discretion of the Legislature and the Governor.

(b) The department is responsible for the planning, design, construction, maintenance, and operation of the state highway system and Senate Bill 45 is not intended to alter that responsibility.

(c) In addition to other responsibilities established by law, the department is the responsible agency for performing all state highway project components specified in subdivision (b) of Section 14529 of the Government Code except for construction.

(d) The Legislature, through the enactment of this section, intends that nothing in subdivision (b) of Section 14529 of the Government Code or any other provision in the act that added this section to the Government Code shall be construed to expand or restrict the authority or responsibility of the department, as provided by statute or the California Constitution, to perform the components described in subdivision (b) of Section 14529 of the Government Code on state highways.

SEC. 2. Section 14523 of the Government Code is amended to read:

14523. The commission may prepare an independent evaluation of the department's budget regarding the adequacy of funding levels and the relative needs of program categories as defined in Section 167 of the Streets and Highways Code and submit its recommendations to the Legislature not later than April 1 of each year. The report shall reflect the commission's judgment regarding the overall funding

levels for each program category and shall not duplicate the item-by-item analysis conducted by the Legislative Analyst.

SEC. 3. Section 14524 of the Government Code is amended to read:

14524. (a) Not later than January 5, 1998, and July 15 of each odd-numbered year thereafter, the department shall submit to the commission a four-year estimate pursuant to Section 164 of the Streets and Highways Code, in annual increments, of all federal and state funds reasonably expected to be available during the following four fiscal years.

(b) The estimate shall specify the amount that may be programmed in each county for regional improvement programs pursuant to paragraph (2) of subdivision (a) of Section 164 of the Streets and Highways Code and shall identify any statutory restriction on the use of particular funds.

(c) For the purpose of estimating revenues, the department shall assume that there will be no changes in existing state and federal statutes.

(d) The method by which the estimate is determined shall be determined by the commission, in consultation with the department, transportation planning agencies, and county transportation commissions.

SEC. 3.5. Section 14524 of the Government Code is amended to read:

14524. (a) Not later than January 5, 1998, and July 15 of each odd-numbered year thereafter, the department shall submit to the commission a four-year estimate pursuant to Section 164 of the Streets and Highways Code, in annual increments, of all federal and state funds reasonably expected to be available during the following four fiscal years.

(b) The estimate shall specify the amount that may be programmed in each county for regional improvement programs pursuant to paragraph (2) of subdivision (a) of Section 164 of the Streets and Highways Code, and for the California Transportation Finance Bank program established in Division 2 (commencing with Section 64000) of Title 6.7, and shall identify any statutory restriction on the use of particular funds.

(c) For the purpose of estimating revenues, the department shall assume that there will be no changes in existing state and federal statutes.

(d) The method by which the estimate is determined shall be determined by the commission, in consultation with the department, transportation planning agencies, and county transportation commissions.

SEC. 4. Section 14524.5 of the Government Code is repealed.

SEC. 5. Section 14525 of the Government Code is amended to read:

odd-numbered year thereafter, the commission shall adopt a four-year estimate pursuant to Section 164 of the Streets and Highways Code, in annual increments, of all state and federal funds reasonably expected to be available during the following four fiscal years.

(b) The estimate shall specify the amount that may be programmed in each county for regional improvement programs under paragraph (2) of subdivision (a) of Section 164 of the Streets and Highways Code and shall identify any statutory restriction on the use of particular funds.

(c) For the purpose of estimating revenues, the commission shall assume that there will be no change in existing state and federal statutes.

(d) If the commission finds that legislation pending before the Legislature or the United States Congress may have a significant impact on the fund estimate, the commission may postpone the adoption of the fund estimate for no more than 90 days. Prior to March 1 of each even-numbered year, the commission may amend the estimate following consultation with the department, transportation planning agencies, and county transportation commissions to account for unexpected revenues or other unforeseen circumstances. In the event the fund estimate is amended, the commission shall extend the dates for the submittal of improvement programs as specified in Sections 14526 and 14527 and for the adoption of the state transportation improvement program pursuant to Section 14529.

SEC. 5.5. Section 14525 of the Government Code is amended to read:

14525. (a) Not later than January 5, 1998, and August 15 of each odd-numbered year thereafter, the commission shall adopt a four-year estimate pursuant to Section 164 of the Streets and Highways Code, in annual increments, of all state and federal funds reasonably expected to be available during the following four fiscal years, and for the California Transportation Finance Bank program established by Division 2 (commencing with Section 64000) of Title 6.7.

(b) The estimate shall specify the amount that may be programmed in each county for regional improvement programs under paragraph (2) of subdivision (a) of Section 164 of the Streets and Highways Code and shall identify any statutory restriction on the use of particular funds.

(c) For the purpose of estimating revenues, the commission shall assume that there will be no change in existing state and federal statutes.

(d) If the commission finds that legislation pending before the Legislature or the United States Congress may have a significant impact on the fund estimate, the commission may postpone the adoption of the fund estimate for no more than 90 days. Prior to March 1 of each even-numbered year, the commission may amend the estimate following consultation with the department, transportation planning agencies, and county transportation commissions to account for unexpected revenues or other unforeseen circumstances. If the fund estimate is amended, the commission shall extend the dates for the submittal of improvement programs as specified in Sections 14526 and 14527 and for the adoption of the state transportation improvement program pursuant to Section 14529.

SEC. 6. Section 14526 of the Government Code is amended to read:

14526. (a) Not later than March 1, 1998, and December 15 of each odd-numbered year thereafter, and after consulting with the transportation planning agencies, county transportation commissions, and transportation authorities, the department shall submit to the commission its interregional improvement program consisting of all of the following:

(1) Projects to improve state highways, pursuant to subdivision (b) of Section 164 of the Streets and Highways Code.

(2) Projects to improve the intercity passenger rail system.

(3) Projects to improve interregional movement of people, vehicles, and goods.

(b) Projects may not be included in the interregional improvement program without a project study report or major investment study.

(c) Major projects shall include current costs updated as of November 1 of the year of submittal and escalated to the appropriate year, and shall be consistent with, and provide the information required in, subdivision (b) of Section 14529.

(d) Projects included in the interregional improvement program shall be consistent with the adopted regional transportation plan.

SEC. 7. Section 14527 of the Government Code is amended to read:

14527. (a) After consulting with the department, the regional transportation planning agencies and county transportation commissions shall adopt and submit to the commission and the department, not later than March 1, 1998, and December 15 of each odd-numbered year thereafter, a four-year regional transportation improvement program in conformance with Section 65082. In counties where a county transportation commission or authority has been created pursuant to Chapter 2 (commencing with Section 130050) of Division 12 of the Public Utilities Code, the commission or the authority shall adopt and submit the county transportation improvement program, in conformance with Sections 130303 and 130304 of that code, to the multicounty designated transportation

planning agency. Other information, including a program for expenditure of local or federal funds, may be submitted for information purposes with the program, but only at the discretion of the transportation planning agencies or the county transportation commissions.

(b) The regional transportation improvement program shall include all projects to be funded with regional improvement funds under paragraph (2) of subdivision (a) of Section 164 of the Streets and Highways Code. The regional programs shall be limited to projects to be funded in whole or in part with regional improvement funds which shall include all projects to receive allocations by the commission during the following four fiscal years. For each project, the total expenditure for each project component and the total amount of commission allocation and the year of allocation shall be stated. The total cost of projects to be funded with regional improvement funds shall not exceed the amount specified in the fund estimate made by the commission pursuant to Section 14525.

(c) The regional transportation planning agencies and county transportation commissions may recommend projects to improve state highways with interregional improvement funds pursuant to subdivision (b) of Section 164 of the Streets and Highways Code. The recommendations shall be separate and distinct from the regional transportation program. A project recommended for funding pursuant to this subdivision shall constitute a usable segment and shall not be a condition for inclusion of other projects in the regional transportation improvement program.

(d) Major projects shall include current costs updated as of November 1 of the year of submittal and escalated to the appropriate year, and shall be consistent with, and provide the information required in, subdivision (b) of Section 14529.

(f) The regional transportation improvement program may not change the project delivery milestone date of any project as shown in the prior adopted state transportation improvement program without the consent of the department or other agency responsible for the project's delivery.

(g) Projects may not be included in the regional transportation improvement program without a complete project study report or, for a project that is not on a state highway, a project study report, equivalent or major investment study.

(h) The transportation planning agencies and county transportation commissions may request and receive an amount not to exceed one-half of 1 percent of their regional improvement fund expenditures for the purposes of project planning, programming, and monitoring. A transportation planning agency or county transportation commission not receiving federal metropolitan planning funds may request and receive an amount not to exceed 2

percent of its regional improvement fund expenditures for the purposes of project planning, programming, and monitoring.

SEC. 8. Section 14529 of the Government Code is repealed.

SEC. 9. Section 14529 is added to the Government Code, to read:

14529. (a) The state transportation improvement program shall include a listing of all capital improvement projects that are expected to receive an allocation of state transportation funds under Section 164 of the Streets and Highways Code, including revenues from transportation bond acts, from the commission during the following four fiscal years. It shall include, and be limited to, the projects to be funded with the following:

(1) Interregional improvement funds.

(2) Regional improvement funds.

(b) For each project, the program shall specify the allocation or expenditure amount and the allocation or expenditure year for each of the following project components:

(1) Completion of all permits and environmental studies.

(2) Preparation of plans, specifications, and estimates.

(3) The acquisition of rights-of-way.

(4) Construction and construction management and engineering, including surveys and inspection.

(c) Funding for right-of-way acquisition and construction for a project may be included in the program only if the commission makes a finding that the sponsoring agency will complete the environmental process and can proceed with right-of-way acquisition or construction within the four-year period. No allocation for right-of-way acquisition or construction shall be made until the completion of the environmental studies and the selection of a preferred alternative.

(d) The commission shall adopt and submit to the Legislature and the Governor, not later than June 1, 1998, and April 1 of each even-numbered year thereafter, a state transportation improvement program. The program shall cover a period of four years, beginning July 1 of the year it is adopted, and shall be a statement of intent by the commission for the allocation or expenditure of funds during those four years. The program shall include projects which are expected to receive funds prior to July 1 of the year of adoption, but for which the commission has not yet allocated funds.

(e) The projects included in the adopted state transportation improvement program shall be limited to those projects submitted or recommended pursuant to Sections 14526 and 14527. The total amount programmed in each fiscal year for each program category shall not exceed the amount specified in the fund estimate adopted under Section 14525.

(f) The state transportation improvement program is a resource management document to assist the state and local entities to plan and implement transportation improvements and to utilize available

resources in a cost-effective manner. It is a document for each county and each region to declare their intent to use available state and federal funds in a timely and cost-effective manner.

(g) Prior to the adoption of the state transportation improvement program, the commission shall hold not less than one hearing in northern California and one hearing in southern California to reconcile any objections by any county or regional agency to the department's program or the department's objections to any regional program.

(h) The commission shall incorporate projects that are included in the regional improvement program and are to be funded with regional improvement funds, unless the commission finds that the regional transportation improvement program is not consistent with the guidelines adopted by the commission or is not a cost-effective expenditure of state funds, in which case the commission may reject the regional transportation improvement program in its entirety. The finding shall be based on an objective analysis, including, but not limited to, travel forecast, cost, and air quality. The commission shall hold a public hearing in the affected county or region prior to rejecting the program, or not later than 60 days after rejecting the program. When a regional transportation improvement program is rejected, the regional entity may submit a new regional transportation improvement program for inclusion in the state transportation improvement program. The commission shall not reject a regional transportation improvement program unless, not later than 60 days after the date it received the program, it provided notice to the affected agency that specified the factual basis for its proposed action.

(i) A project may be funded with more than one of the program categories listed in Section 164 of the Streets and Highways Code.

(j) Notwithstanding any other provision of law, no local or regional matching funds shall be required for projects that are included in the state transportation improvement program.

(k) The commission may include a project recommended by a regional transportation planning agency or county transportation commission pursuant to subdivision (c) of Section 14527, if the commission makes a finding, based on an objective analysis, that the recommended project is more cost-effective than a project submitted by the department pursuant to Section 14526.

SEC. 10. Section 14529.01 of the Government Code is repealed.

SEC. 11. Section 14529.1 is added to the Government Code, to read:

14529.1. The commission shall establish guidelines for the allocation of funds to an entity for a project to verify that the entity has the resources and capabilities to implement the project in a timely manner and may establish a process for monitoring the progress being made and proper use of funds. The guidelines and

process shall be kept to the minimum needed to protect state funds and provide for a timely use of those funds. The commission shall request that the entity receiving funds accept an audit of funds allocated to it by the commission if an audit is deemed necessary.

SEC. 12. Section 14529.2 of the Government Code is repealed.

SEC. 13. Section 14529.6 of the Government Code is repealed.

SEC. 14. Section 14529.8 is added to the Government Code, to read:

14529.8. (a) Funds may be allocated by the commission for each project element during the fiscal year that is identified in the state transportation improvement program and the funds shall be available for expenditure during that fiscal year and the following two fiscal years. Any funds not allocated, or allocated but not encumbered, during the period specified in this section, shall remain in the account, or be returned to the account, as the case may be.

(b) Upon a finding that an unforeseen and extraordinary circumstance beyond the control of the responsible agency has occurred that justifies an extension, the commission may extend the deadlines specified in subdivision (a). The deadline extensions shall not exceed the period of delay directly attributed to the extraordinary circumstance and in no event be more than 20 months. The commission shall not grant more than one extension.

SEC. 15. Section 14529.12 is added to the Government Code, to read:

14529.12. (a) The department and the regional planning agencies shall consult and seek consensus on state highway projects to be proposed for inclusion in the state transportation improvement program under Sections 14526 and 14527.

(b) Agreements between the state and transportation planning agencies or county transportation commissions relating to program approvals or federal or state fund transfers and the expenditure of funds pursuant to those agreements shall comply with all applicable federal and state laws and regulations and be subject to the administrative operating procedures set forth in Federal Office of Management and Budget Circulars A-87, A-102, and A-128, but not to any other state agency procedures or requirements.

SEC. 16. Section 14529.15 is added to the Government Code, to read:

14529.15. (a) The commission shall make a report to the Legislature on or before February 1, 1999, and on or before February 1, 2001, assessing the relative success of the provisions of Senate Bill 45, as enacted during the 1997–98 Regular Session, in achieving the Legislature's intent for reform of the state transportation improvement program, and assessing program delivery, expenditure of funds at both regional and statewide levels, and program performance.

(b) The Legislature intends that the 1998 State Transportation Improvement Program conform with the requirements of Senate Bill 45, as enacted during the 1997–98 Regular Session, to the maximum degree feasible, taking into account the limited time allowed between enactment of that bill and adoption of that program. The commission shall comply fully with all procedures and requirements of Senate Bill 45, as enacted during the 1997–98 Regular Session, in the preparation and adoption of the subsequent state transportation improvement programs.

(c) The 1998 State Transportation Improvement Program shall cover a period of six years as a transition into a four-year programming period.

SEC. 17. Section 14530.1 of the Government Code is amended to read:

14530.1. (a) The department, in cooperation with the commission, transportation planning agencies, and county transportation commissions and local governments, shall develop guidelines for the development of the state transportation improvement program and the incorporation of projects into the state transportation improvement program.

(b) The guidelines shall include, but not be limited to, all of the following:

(1) Standards for project deliverability.

(2) Standards for identifying projects and project components.

(3) Standards for cost estimating.

(4) Programming methods for increases and schedule changes.

(5) Objective criteria for measuring system performance and cost-effectiveness of candidate projects.

(c) The guidelines shall be submitted to the commission by September 15, 1998. After conducting at least one hearing in northern California and one in southern California, the commission shall adopt the guidelines by December 31, 1998.

(d) The guidelines shall be the complete and full statement of the policy, standards, and criteria that the commission intends to use in selecting projects to be included in the state transportation improvement program.

(e) The commission may amend the adopted guidelines after conducting at least one public hearing. The commission shall make a reasonable effort to adopt the amended guidelines prior to its adoption of the fund estimate pursuant to Section 14525. In no event shall the adopted guidelines be amended, or otherwise revised, modified, or altered during the period commencing 30 days after the adoption of the fund estimate pursuant to Section 14525 and before the adoption of the state transportation improvement program pursuant to Section 14529.

SEC. 18. Section 14530.5 of the Government Code is repealed.

SEC. 19. Section 14531 of the Government Code is amended to read:

14531. (a) The commission may amend the state transportation improvement program if the amendment meets both of the following conditions:

(1) The request for the amendment is made by the entity that submitted the project or projects that are in the program and are to be changed by the amendment.

(2) The total amount programmed in each county for regional improvements does not exceed the county's share prior to the amendment, or the total amount programmed in each county is treated as an adjustment to the share pursuant to Section 188.10 of the Streets and Highways Code.

(b) Public notice of the proposed amendments to the program or the plan shall be made at least 30 days before the commission takes formal action on the proposed amendments. The notice shall include the text and complete description of the proposed amendments.

SEC. 20. Section 14536 of the Government Code is amended to read:

14536. (a) The annual report shall include an explanation and summary of major policies and decisions adopted by the commission during the previously completed state and federal fiscal year, with an explanation of any changes in policy associated with the performance of its duties and responsibilities over the past year.

(b) The annual report may also include a discussion of any significant upcoming transportation issues anticipated to be of concern to the public and the Legislature.

SEC. 21. Section 14555 of the Government Code is repealed.

SEC. 22. Section 65071 of the Government Code is repealed.

SEC. 23. Section 65080 of the Government Code is repealed.

SEC. 24. Section 65080 is added to the Government Code, to read:

65080. (a) Each transportation planning agency designated under Section 29532 or 29532.1 shall prepare and adopt a regional transportation plan directed at achieving a coordinated and balanced regional transportation system, including, but not limited to, mass transportation, highway, railroad, maritime, bicycle, pedestrian, goods movement, and aviation facilities and services. The plan shall be action-oriented and pragmatic, considering both the short-term and long-term future, and shall present clear, concise policy guidance to local and state officials. The regional transportation plan shall consider factors specified in Section 134 of Title 23 of the United States Code. Each transportation planning agency shall consider and incorporate, as appropriate, the transportation plans of cities, counties, districts, private organizations, and state and federal agencies.

(b) The regional transportation plan shall include all of the following:

(1) A policy element that describes the transportation issues in the region, identifies and quantifies regional needs, and describes the desired short-range and long-range transportation goals, and pragmatic objective and policy statements. The objective and policy statements shall be consistent with the funding estimates of the financial element.

(2) An action element that describes the programs and actions necessary to implement the plan and assigns implementation responsibilities. The action element may describe all projects proposed for development during the 20-year life of the plan.

The action element shall consider congestion management programming activities carried out within the region.

(3) A financial element that summarizes the cost of plan implementation constrained by a realistic projection of available revenues. The financial element shall also contain recommendations for allocation of funds. A county transportation commission created pursuant to Section 130000 of the Public Utilities Code shall be responsible for recommending projects to be funded with regional improvement funds, if the project is consistent with the regional transportation plan. The first four years of the financial element shall be based on the four-year estimate of funds developed pursuant to Section 14524. The financial element may recommend the development of specified new sources of revenue, consistent with the policy element and action element.

(c) Each transportation planning agency shall adopt and submit, biennially, an updated regional transportation plan to the California Transportation Commission and the Department of Transportation. The plan shall be consistent with federal planning and programming requirements. A transportation planning agency that does not contain an urbanized area may at its option adopt and submit a regional transportation plan once every four years beginning with December 1, 1997. Prior to adoption of the regional transportation plan, a public hearing shall be held, after the giving of notice of the hearing by publication in the affected county or counties pursuant to Section 6061.

SEC. 25. Section 65081 of the Government Code is repealed.

SEC. 26. Section 65081.1 of the Government Code is amended to read:

65081.1. (a) After consultation with other regional and local transportation agencies, each transportation planning agency whose planning area includes a primary air carrier airport shall, in conjunction with its preparation of an updated regional transportation plan, include an airport ground access improvement program.

(b) The program shall address the development and extension of mass transit systems, including passenger rail service, major arterial and highway widening and extension projects, and any other ground access improvement projects the planning agency deems appropriate.

(c) Highest consideration shall be given to mass transit for airport access improvement projects in the program.

(d) If federal funds are not available to a transportation planning agency for the costs of preparing or updating an airport ground access improvement program, the agency may charge the operators of primary air carrier airports within its planning area for the direct costs of preparing and updating the program. An airport operator against whom charges are imposed pursuant to this subdivision shall pay the amount of those charges to the transportation planning agency.

SEC. 27. Section 65082 of the Government Code is amended to read:

65082. (a) A four-year regional transportation improvement program shall be prepared, adopted, and submitted to the California Transportation Commission on or before January 5, 1998, and December 15 of each odd-numbered year thereafter, updated every two years, pursuant to Sections 65080 and 65080.5 and the guidelines adopted pursuant to Section 14530.1, to include regional transportation improvement projects and programs proposed to be funded, in whole or in part, in the state transportation improvement program.

Major projects shall include current costs updated as of November 1 of the year of submittal and escalated to the appropriate year, and be listed by relative priority, taking into account need, delivery milestone dates, as defined in Section 14525.5, and the availability of funding.

(b) Except for those counties that do not prepare a congestion management program pursuant to Section 65088.3, congestion management programs adopted pursuant to Section 65089 shall be incorporated into the regional transportation improvement program submitted to the commission by December 15 of each odd-numbered year.

(c) Local projects not included in a congestion management program shall not be included in the regional transportation improvement program. Projects and programs adopted pursuant to subdivision (a) shall be consistent with the capital improvement program adopted pursuant to paragraph (5) of subdivision (b) of Section 65089, and the guidelines adopted pursuant to Section 14530.1.

(d) Other projects may be included in the regional transportation improvement program if listed separately.

(e) Unless a county not containing urbanized areas of over 50,000 population notifies the Department of Transportation by July 1 that it intends to prepare a regional transportation improvement program for that county, the department shall, in consultation with

the affected local agencies, prepare the program for all counties for which it prepares a regional transportation plan.

(f) The requirements for incorporating a congestion management program into a regional choice program specified in this section do not apply in those counties that do not prepare a congestion management program in accordance with Section 65088.3.

SEC. 28. Section 65083 of the Government Code is amended to read:

65083. As part of implementation of the demonstration program established pursuant to Section 14045 of the Government Code, the regional transportation planning agency preparing the four-year regional transportation improvement program pursuant to Section 65082 shall consider those exclusive mass transit guideway projects where the applicant and the local entity responsible for land use decisions have entered into a binding agreement to promote high density residential development within one-half mile of a mass transit guideway station. Any project selected by the agency which is located in a demonstration site shall be considered for inclusion in the regional transportation improvement program. This section shall not preclude the agency from applying the criteria for making awards which may be required or permitted pursuant to other provisions of law.

SEC. 29. Section 65086 of the Government Code is amended to read:

65086. The Department of Transportation, in consultation with transportation planning agencies, county transportation commissions, counties, and cities, shall carry out long-term state highway system planning to identify future highway improvements.

SEC. 30. Section 65086.4 of the Government Code is repealed.

SEC. 31. Section 65086.4 is added to the Government Code, to read:

65086.4. Projects on the state highway system shall comply with applicable state and federal standards to ensure systemwide consistency with operational, safety, and maintenance needs. The department may approve exceptions to this requirement that it determines to be appropriate.

SEC. 32. Section 99310 of the Public Utilities Code is amended to read:

99310. (a) The Transportation Planning and Development Account in the State Transportation Fund, hereafter referred to as the "account" in this article, is hereby continued in existence as the Public Transportation Account in the fund.

(b) Any reference in any law or regulation to the Transportation Planning and Development Account in the State Transportation Fund is a reference to the Public Transportation Account.

SEC. 33. Section 99312 of the Public Utilities Code is amended to read:

99312. From the funds transferred to the account pursuant to Section 7102 of the Revenue and Taxation Code, the Legislature shall appropriate funds for the following purposes:

(a) To the department, 50 percent for purposes of Section 99315.

(b) To the Controller, 25 percent for allocation to transportation planning agencies, county transportation commissions, and the San Diego Metropolitan Transit Development Board pursuant to Section 99314.

(c) To the Controller, 25 percent for allocation to transportation agencies, county transportation commissions, and the San Diego Metropolitan Transit Development Board for purposes of Section 99313.

SEC. 34. Section 99315 of the Public Utilities Code is amended to read:

99315. Funds made available pursuant to subdivision (a) of Section 99312, shall be available for all of the following purposes:

(a) Bus and passenger rail services pursuant to Sections 14035, 14035.5, and 14038 of the Government Code.

(b) Funding of public transit capital improvement projects in the state transportation improvement program, pursuant to Section 14529 of the Government Code.

(c) To the department for its planning activities not payable from the State Highway Account in the State Transportation Fund, its mass transportation responsibilities, and its assistance in regional transportation planning.

(d) To the director for allocation to the Institute of Transportation Studies of the University of California for training and research in public transportation systems engineering and management and coordination with other transportation modes.

(e) To the commission for its activities not payable from the State Highway Account.

(f) To the Public Utilities Commission for its passenger rail safety responsibilities specified in statute on commuter rail, intercity rail, and urban rail transit lines.

SEC. 35. Section 99315.5 of the Public Utilities Code is repealed.

SEC. 36. Section 99315.6 of the Public Utilities Code is repealed.

SEC. 37. Section 99318 of the Public Utilities Code is repealed.

SEC. 38. Section 99318.2 of the Public Utilities Code is repealed.

SEC. 39. Section 163 of the Streets and Highways Code is repealed.

SEC. 40. Section 163 is added to the Streets and Highways Code, to read:

163. The Legislature, through the enactment of this section, intends to establish a policy for the use of all transportation funds that are available to the state, including the State Highway Account, the Public Transportation Account, and federal funds. The department

d the commission shall prepare fund estimates pursuant to Sections 524 and 14525 of the Government Code based on the following:

(a) Annual expenditures for the administration of the department ll be the same as the most recent Budget Act, adjusted for lation.

(b) Annual expenditures for the maintenance and operation of state highway system shall be the same as the most recent Budget t, adjusted for inflation and inventory.

c) Annual expenditure for the rehabilitation of the state highway tem shall be the same as the most recent Budget Act, or, if a g-range rehabilitation plan has been enacted pursuant to Section 1.6, it shall be based on planned expenditures in a long-range iabilitation plan prepared by the department pursuant to Section 1.6.

(d) Annual expenditures for local assistance shall be the amount quired to fund local assistance programs required by state or leral law or regulations, including, but not limited to, railroad ide crossing maintenance, bicycle lane account, congestion tigation and air quality, regional surface transportation programs, al highway bridge replacement and rehabilitation, local seismic rofit, local hazard elimination and safety, local federal monstration projects, and local emergency relief.

(e) After deducting expenditures for administration, operation, intenance, local assistance, safety, and rehabilitation pursuant to odivisions (a), (b), (c), and (d), and for expenditures pursuant to ction 164.56, the remaining funds shall be available for capital provement projects to be programmed in the state transportation provement program.

SEC. 41. Section 164 of the Streets and Highways Code is pealed.

SEC. 42. Section 164 is added to the Streets and Highways Code, read:

164. (a) Funds made available for transportation capital provement projects under subdivision (e) of Section 163 shall be ogrammed and expended for the following program categories:

(1) Twenty-five percent for interregional improvements.

(2) Seventy-five percent for regional improvements.

(b) Sixty percent of the funds available for interregional provements under paragraph (1) of subdivision (a) shall be ogrammed and expended for improvements to state highways that specified in Sections 164.10 to 164.20, inclusive, and that are side the boundaries of an urbanized area with a population of re than 50,000, and for intercity rail improvements.

c) Not less than 15 percent of the amount of funds programmed ler subdivision (b) shall be programmed for intercity rail provement projects, including separation of grade projects.

(d) Funds made available under paragraph (1) of subdivision (a) shall be used for transportation improvement projects that are needed to facilitate interregional movement of people and goods. The projects may include state highway, intercity passenger rail, mass transit guideway, or grade separation projects.

(e) Funds made available under paragraph (2) of subdivision (a) shall be used for transportation improvement projects that are needed to improve transportation within the region. The projects may include, but shall not be limited to, improving state highways, local roads, public transit, intercity rail, pedestrian, and bicycle facilities, and grade separation, transportation system management, transportation demand management, soundwall projects, intermodal facilities, and safety.

SEC. 43. Section 164.2 of the Streets and Highways Code is repealed.

SEC. 44. Section 164.3 of the Streets and Highways Code is amended to read:

164.3. The interregional road system shall include, and shall be limited to, those routes that are specified in Sections 164.10 to 164.20, inclusive.

SEC. 45. Section 164.4 of the Streets and Highways Code is repealed.

SEC. 46. Section 164.6 is added to the Streets and Highways Code, to read:

164.6. (a) The department shall prepare a 10-year state rehabilitation plan for the rehabilitation and reconstruction, or the combination thereof, of all state highways and bridges owned by the state. The plan shall identify all rehabilitation needs for the 10-year period beginning on July 1, 1998, and ending on June 30, 2008, and shall include a schedule of improvements to complete all needed rehabilitation not later than June 30, 2008. The plan shall be updated every two years beginning in 2000. The plan shall include specific milestones and quantifiable accomplishments, such as miles of highways to be repaved and number of bridges to be retrofitted. The plan shall contain strategies to control cost and improve the efficiency of the program, and include a cost estimate for at least the first four years of the program.

(b) The plan shall be submitted to the commission for review and comments and shall be transmitted to the Governor and the Legislature not later than May 1, 1998.

(c) The plan shall be the basis for the department's budget request and for the adoption of fund estimates pursuant to Section 163.

SEC. 47. Section 164.35 of the Streets and Highways Code is repealed.

SEC. 48. Section 164.50 of the Streets and Highways Code is repealed.

SEC. 49. Section 164.51 of the Streets and Highways Code is repealed.

SEC. 50. Section 164.52 of the Streets and Highways Code is repealed.

SEC. 51. Section 164.55 of the Streets and Highways Code is repealed.

SEC. 52. Section 164.57 of the Streets and Highways Code is repealed.

SEC. 53. Section 167 of the Streets and Highways Code is amended to read:

167. (a) Funds in the State Highway Account in the State Transportation Fund shall be programmed, budgeted subject to section 163, and expended to maximize the use of federal funds and shall be based on the following sequence of priorities:

(1) Operation, maintenance, and rehabilitation of the state highway system.

(2) Safety improvements where physical changes, other than adding additional lanes, would reduce fatalities and the number and severity of injuries.

(3) Transportation capital improvements that expand capacity or reduce congestion, or do both.

(4) Environmental enhancement and mitigation programs.

(b) With respect to the funds in the State Highway Account, in the Public Transportation Account, and in the Passenger Rail Bond Fund, the proposed budget shall be organized on a program basis. The proposed budget shall list the proposed expenditures for the transportation program under the following program elements:

(1) Administration.

(2) Program development.

(3) Maintenance.

(4) State highway operation and protection.

(5) Local assistance.

(6) Interregional improvements.

(7) Regional improvements.

(8) Environmental enhancement and mitigation programs.

(c) State operations expenditure amounts of the department for interregional and regional transportation improvement projects shall be listed as required by subdivision (b) of Section 14529 of the Government Code, but those amounts other than those for the acquisition of rights-of-way and construction shall not be subject to allocation by the commission.

(d) To align the annual budget with the adopted state transportation improvement program, the department may submit to the Department of Finance revised capital outlay support and capital outlay budget estimates as part of its May revision process.

(e) The budget shall not include specific appropriations for specific transportation improvement projects, and the Legislature

shall not enact legislation containing specific individual transportation projects.

(f) The basis for defining major and minor capital outlay projects shall be established by the commission.

(g) The Legislative Analyst shall prepare an analysis of the proposed expenditures for each program element as a part of the budget analysis.

SEC. 54. Section 168 of the Streets and Highways Code is repealed.

SEC. 55. Section 182.4 of the Streets and Highways Code is repealed.

SEC. 56. Section 182.5 of the Streets and Highways Code is repealed.

SEC. 57. Section 182.5 is added to the Streets and Highways Code, to read:

182.5. (a) It is the intent of the Legislature that the transition to the new programs and procedures established in the bill enacting this section shall be fair and equitable and minimize disruptions in the delivery of projects. With specific reference to the transition from county minimums to county shares for regional improvement, no project should be counted twice, no project that would be counted under either the old or new procedures should escape being counted in the transition, shares should be sufficient to fund projects programmed in the 1996 State Transportation Improvement Program for the same period, no incentive or reward should be provided for delaying a project, and no incentive or reward should be provided for allocating funds to a project earlier than the year in which the funds are needed for the project.

(b) At the end of the fiscal year ending June 30, 1998, the county minimums and county minimum deficits shall be recalculated under the law as it existed prior to the enactment of the bill adding this section.

(c) Notwithstanding Section 164, there shall be set aside sufficient funding for every project that is included in the 1996 State Transportation Improvement Program. This funding shall be set aside in the fund estimate prior to and in addition to the distribution of funding between programs pursuant to Section 164.

(d) The amount of the cumulative county minimum deficit calculated for any county pursuant to subdivision (b) shall be carried forward as a county share for the 1998 State Transportation Improvement Program, prior to and in addition to the computation of county shares pursuant to subdivision (a) of Section 188.8.

(e) The commission shall not allocate funds for any project unless the commission has programmed the state transportation improvement program in a manner that complies with the requirements of Sections 188, 188.8, and 188.10.

(f)

(f) Notwithstanding subdivision (a), for a county within the region defined by Section 66502 of the Government Code where funds were traded in the 1996 State Transportation Improvement Program to another county in that region, the county share for that county for the 1998 State Transportation Improvement Program shall be increased by the amount of the trade in the 1996 State Transportation Improvement Program, as if the share were a county minimum deficit under subdivision (d).

(g) In adopting the 1998 State Transportation Improvement Program, the commission shall, at a minimum, fund all intercity rail projects that are included in the adopted 1996 State Transportation Improvement Program. The amount of funds programmed for each project shall not be less than the amount in the 1996 State Transportation Improvement Program.

(h) The commission, after consulting with the department and the regional planning agencies, shall adopt interim guidelines and procedures relative to fund estimates and project selection in a manner that the first state transportation improvement program, pursuant to the provisions of the act adding this section, is adopted not later than June 1, 1998.

SEC. 58. Section 182.8 of the Streets and Highways Code is repealed.

SEC. 59. Section 188 of the Streets and Highways Code is amended to read:

188. (a) All federal and state funds to be allocated by the commission, or expended by the department, for transportation improvements under Section 164, except for purposes of subdivisions (b) and (c) of that section, shall be programmed during the period commencing on July 1, 1997, and ending on June 30, 2004, and for each four-year period thereafter, 40 percent in County Group No. 1 and 60 percent in County Group No. 2.

(b) This section shall be known and may be cited as the Barnes-Mills-Walsh formula.

SEC. 60. Section 188.8 of the Streets and Highways Code is amended to read:

188.8. (a) From the funds programmed pursuant to Section 188 for regional improvement projects, the commission shall approve programs and program amendments, so that funding is distributed to each county of County Group No. 1 and in each county of County Group No. 2 during the county share periods commencing July 1, 1997, and ending June 30, 2004, and each period of four years thereafter. The amount shall be computed as follows:

(1) The commission shall compute, for the county share periods all of the money to be expended for regional improvement projects in County Groups Nos. 1 and 2, respectively, as provided in Section 188.

(2) From the amount computed for County Group No. 1 in paragraph (1) for the county share periods the commission shall determine the amount of programming for each county in the group based on a formula which is based 75 percent on the population of the county to the total population of County Group No. 1 and 25 percent on state highway miles in the county to the total state highway miles in County Group No. 1.

(3) From the amount computed for County Group No. 2 in paragraph (1) for the county share periods the commission shall determine the amount of programming for each county in the group based on a formula which is based 75 percent on the population of the county to the total population of County Group No. 2 and 25 percent on state highway miles in the county to the total state highway miles in County Group No. 2.

(b) Notwithstanding subdivision (a), that portion of the county population and state highway mileage in El Dorado and Placer Counties that is included within the jurisdiction of the Tahoe Regional Planning Agency shall be counted separately toward the area under the jurisdiction of the Tahoe Regional Transportation Agency and shall not be included in El Dorado and Placer Counties. The commission shall approve programs, program amendments, and fund reservations for the area under the jurisdiction of the Tahoe Regional Transportation Agency which shall be calculated using the formula described in paragraph (2) of subdivision (a).

(c) A transportation planning agency designated pursuant to Section 29532 of the Government Code, or a county transportation commission created by Division 12 (commencing with Section 130000) of the Public Utilities Code, may adopt a resolution to pool its county share programming with any county or counties adopting similar resolutions to consolidate its county shares for two consecutive county share periods into a single share covering both periods. A multicounty transportation planning agency with a population of less than three million may also adopt a resolution to pool the share of any county or counties within its region. The resolution shall provide for pooling the county share programming in any of the pooling counties for the new single share period and shall be submitted to the commission not later than May 1 immediately preceding the commencement of the county share period.

(d) For the purposes of this section, funds programmed shall include the following costs pursuant to subdivision (b) of Section 14529 of the Government Code:

(1) The amounts programmed or budgeted for both components of project development in the original programmed year.

(2) The amount programmed for right-of-way in the year programmed in the most recent state transportation improvement program. If the final estimate is greater than 120 percent of the

amount originally programmed, the amount shall be adjusted for final expenditure estimates at the time of right-of-way certification.

(3) The engineer's final estimate of project costs, including construction engineering, presented to the commission for approval pursuant to Section 14533 of the Government Code in the year programmed in the most recent state transportation improvement program.

(4) Project costs shown in the program, as amended, where project allocations have not yet been approved by the commission, escalated to the date of scheduled project delivery.

(e) Project costs shall not be changed to reflect any of the following:

(1) Differences that are within 20 percent of the amount programmed for actual project development cost.

(2) Actual right-of-way purchase costs.

(3) Construction contract award amounts.

(4) Changes in construction expenditures.

(f) For the purposes of this section, the population in each county is that determined by the last preceding federal census, or a subsequent census validated by the Population Research Unit of the Department of Finance, at the beginning of each county share period.

(g) For the purposes of this section, "state highway miles" means the miles of state highways open to vehicular traffic at the beginning of each county share period.

(h) It is the intent of the Legislature that there is to be flexibility in programming under this section and Section 188 so that, while ensuring that each county will receive an equitable share of state transportation improvement program funding, the types of projects selected and the programs from which they are funded may vary from county to county.

(i) Commencing with the four-year period commencing on July 1, 2004, individual county share shortfalls and surpluses at the end of each four-year period, if any, shall be carried forward and credited or debited to the following four years.

(j) The commission, with the consent of the department, may consider programming projects in the state transportation improvement program in a region with a population of not more than 1,000,000 at a level higher or lower than a county share, when the regional agency either asks to reserve part or all of its share until a future programming year, to build up a larger share for a higher cost project, or asks to advance an amount of the share, in an amount not to exceed 200 percent of its current share, for a larger project, to be deducted from shares for future programming years. After consulting with the department, the commission may adjust the level of programming in the regional program in the affected region against the level of interregional programming in the improvement

program to accomplish the reservation or advancement, for the current state transportation improvement program. The commission shall keep track of any resulting shortfalls or surpluses in county shares.

(k) Notwithstanding subdivision (a), in a region defined by Section 66502 of the Government Code, the transportation planning agency may adopt a resolution to pool the county share of any county or counties within the region, provided that each county shall receive no less than 85 percent and not more than 115 percent of its county share for a single county share period and 100 percent of its county share over two consecutive county share periods. The resolution shall be submitted to the commission not later than May 1, immediately preceding the commencement of the county share period.

(l) Federal funds used for federal demonstration projects that use federal funds that would otherwise be available to the state shall be subtracted from the county share of the county where the project is located.

SEC. 61. Section 188.9 of the Streets and Highways Code is repealed.

SEC. 62. Section 188.10 is added to the Streets and Highways Code, to read:

188.10. (a) The commission, with assistance from the department and regional agencies, shall maintain a long-term balance of shares, shortfalls, and surpluses for regional improvement programs.

(b) The balance shall include all of the following:

(1) Shares from the fund estimate for each state transportation improvement program pursuant to Section 14525 of the Government Code.

(2) Amounts programmed in each state transportation improvement program pursuant to Section 14529 of the Government Code.

(3) Surpluses or shortfalls due to reservations or advancements pursuant to subdivision (i) of Section 188.8.

(4) Amounts deducted or added because of changes in project development costs or a cost increase or savings in the final engineering estimate or the final right-of-way certification estimate at the time of allocation for construction, pursuant to subdivisions (d) and (e) of Section 188.8.

(5) Any supplemental project allocations during or following construction.

(6) Amounts deducted or added because of amendments to the state transportation improvement program that add, delete, or change the scope and cost of regional improvement projects, pursuant to Section 14531 of the Government Code.

(c) The balance through the preceding fiscal year shall be made available for review by all regional agencies at the time of each fund estimate, and by not later than August 15 of each year.

(d) The commission, through the fund estimate, shall restore for the next state transportation improvement program the interregional improvement program level specified in subdivision (a) of Section 164.

SEC. 63. Section 199 of the Streets and Highways Code is repealed.

SEC. 64. Section 199.1 of the Streets and Highways Code is repealed.

SEC. 65. Section 199.2 of the Streets and Highways Code is repealed.

SEC. 66. Section 199.3 of the Streets and Highways Code is repealed.

SEC. 67. Section 199.4 of the Streets and Highways Code is repealed.

SEC. 68. Section 199.6 of the Streets and Highways Code is repealed.

SEC. 69. Section 199.7 of the Streets and Highways Code is repealed.

SEC. 70. Section 199.8 of the Streets and Highways Code is repealed.

SEC. 71. Section 199.9 of the Streets and Highways Code is repealed.

SEC. 72. Section 199.10 of the Streets and Highways Code is repealed.

SEC. 73. Section 199.11 of the Streets and Highways Code is repealed.

SEC. 74. Section 2600 of the Streets and Highways Code is repealed.

SEC. 75. Section 2601 of the Streets and Highways Code is amended to read:

2601. (a) For purposes of this chapter:

(1) "Applicant" means a city, a county, or any local entity that is authorized to impose taxes or fees and that has responsibility for constructing highways or exclusive public mass transit guideways.

(2) "Eligible project" means a local road, a state highway, or an exclusive public mass transit guideway improvement project that meets all of the following conditions:

(A) Upon completion of the project, it would constitute a usable segment that would increase the capacity of the highway or guideway or would extend service to new areas, or, in the case of a local road rehabilitation project, it would extend the useful life of the roadway by at least 10 years.

(B) The applicant has committed, or is capable of committing, to pay the local share from its local fund to complete the project.

(C) The project is not receiving any other state funds.

(D) The applicant has completed, or is capable of completing, all project development work so that the contracts for the project can be awarded within two years of the date that the project was submitted to the department pursuant to subdivision (a) of Section 2602.

(E) Improvements to state highways are consistent with state and federal standards, are designed to minimize long-term maintenance costs, and are approved by the department.

(3) "Local fund" means revenues from any locally imposed tax or fee.

(4) "Local share" means the total cost of completing the project, less any state matching funds applied for through this partnership program and any federal funds.

(5) "State share" means the amount of state funds applied for and in no case shall it exceed local share. The state share is not subject to the requirements of Sections 188 and 188.8.

(b) This section shall remain in effect only until July 1, 1999, and as of that date is repealed, unless a later enacted statute, which is enacted on or before July 1, 1999, deletes or extends that date.

SEC. 76. Section 2602 of the Streets and Highways Code is amended to read:

2602. (a) The state-local transportation partnership program shall be implemented by the department and the applicants under the following procedures:

(1) Applicants shall submit applications for eligible projects to the department not later than June 30.

(2) The department shall review the applications for consistency with the requirements of this chapter and shall compile a preliminary list of all eligible projects not later than September 30 of the year in which the application was submitted.

(3) (A) If the total state share for eligible projects exceeds the amount specified in the Governor's proposed budget, the department shall compute the preliminary pro rata share of state funds to be available so that each eligible project would receive the same ratio of state share to local share. Not later than April 1 of the following year, the department shall advise the applicants of the preliminary pro rata share of state funds to be available.

(B) Not later than June 15 of the following year, each applicant shall inform the department whether or not it can proceed with the project with the lower state share and meet the project development completion requirements specified in subparagraph (D) of paragraph (2) of subdivision (a) of Section 2601.

(C) Upon the enactment of the annual Budget Act, the department shall compile a new list of eligible projects consisting of those projects that were included in the original list that the applicant has indicated it can proceed with a lower state share and for which

the applicant has indicated it can still meet the delivery requirements pursuant to subparagraph (D) of paragraph (2) of subdivision (a) of Section 2601.

(D) Based on the amount of the appropriation contained in the annual Budget Act, the department shall compute the final pro rata state share so that each project on the new list would receive the same ratio of state share to local share.

(E) Within 30 days of the enactment of the annual Budget Act, the department shall report to the Legislature on the projects being funded through this program and the ratio of state share to local share.

(4) The Legislature intends to appropriate two hundred fifty million dollars ($250,000,000) by June 30, 1990, two hundred fifty million dollars ($250,000,000) by June 30, 1991, and two hundred million dollars ($200,000,000) by June 30 of each year thereafter for this program.

(5) Construction contracts for projects on the eligibility list established pursuant to paragraph (2) or (3) shall be let not later than June 30 of the fiscal year for which funds are appropriated pursuant to paragraph (4).

(6) Beginning with projects funded through appropriations made by the Budget Act of 1992, applications shall not be accepted for any project within the boundaries of a project subject to, but for which contracts were not let in accordance with, paragraph (5), for a period of three fiscal years following the fiscal year in which the applicant's notification of intent to proceed under subparagraph (B) of paragraph (3) was submitted.

(7) The funds appropriated shall be expended not later than June 30 of the fourth year following the appropriation.

(8) Notwithstanding paragraphs (5) and (6), any project in Orange County for which a construction contract would otherwise have been required to be let by June 30, 1995, may be let until, but not later than, June 30, 1996.

(9) Notwithstanding paragraphs (5) and (6), any project in Santa Barbara County for which a construction contract would otherwise have been required to be let by June 30, 1995, may be let until, but not later than, December 31, 1996.

(10) The Lakeville Highway widening project (State Route 116 from Caulfield Lane to the Petaluma city limit), and the Mare Island Way/Wilson Avenue Cycle 6 improvement project in the City of Vallejo, for which a construction contract would otherwise have been required to be let by June 30, 1996, may be let until, but not later than, June 30, 1997.

(11) Notwithstanding paragraphs (5) and (6), any project in Siskiyou County for which a construction contract would otherwise have been required to be let by June 30, 1997, may be let until, but not later than, June 30, 1999.

(b) This section shall remain in effect only until July 1, 1999, and as of that date is repealed, unless a later enacted statute, which is enacted on or before July 1, 1999, deletes or extends that date.

SEC. 77. Section 2602.1 of the Streets and Highways Code is amended to read:

2602.1. (a) Notwithstanding Section 2602, for the 1990–91 fiscal year only, funding for the state-local transportation partnership program shall be implemented as follows:

(1) Any project which was included in the list of eligible projects compiled by the department as of April 1, 1990, may be withdrawn by the applicant for funding during the 1990–91 fiscal year and resubmitted not later than July 31, 1990, for funding in the 1991–92 fiscal year.

(2) The department shall recompute the pro rata share of state funding for projects that remain on the list on August 1, 1990, based upon the amount appropriated for the program for the 1990–91 fiscal year, so that each eligible project will receive the same ratio of state share to local share.

(3) Not later than September 1, 1990, the department shall notify the Legislature of the ratio of state share to local share computed pursuant to paragraph (2).

(4) With respect to any project which was withdrawn and resubmitted by July 31, 1990, pursuant to paragraph (1), the department shall, as nearly as possible, administer and implement the program for the 1990–91 fiscal year in accordance with the procedure prescribed by this section, as if this section had been in effect on that date.

(b) This section shall remain in effect only until January 1, 1999, and as of that date is repealed, unless a later enacted statute, which is enacted on or before January 1, 1999, deletes or extends that date.

SEC. 78. Section 3.5 of this bill incorporates amendments to Section 14524 of the Government Code proposed by both this bill and AB 87. It shall only become operative if (1) both bills are enacted and become effective on or before January 1, 1998, (2) each bill amends Section 14524 of the Government Code, and (3) this bill is enacted after AB 87, in which case Section 3 of this bill shall not become operative.

SEC. 79. Section 5.5 of this bill incorporates amendments to Section 14525 of the Government Code proposed by both this bill and AB 87. It shall only become operative if (1) both bills are enacted and become effective on or before January 1, 1998, (2) each bill amends Section 14525 of the Government Code, and (3) this bill is enacted after AB 87, in which case Section 5 of this bill shall not become operative.

APPENDIX III

Congestion Management Program Roadway Network Segmentation

THIS PAGE
INTENTIONALLY LEFT BLANK

Table 1

CMP NETWORK - ARTERIALS

Rationale for Segmentation

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
1st Street					
Market-Harrison					
3rd Street					
Jamestown-Evans *		x	x		
Evans-China Basin		x			
China Basin-Market		x		x	
4th Street					
Market-Harrison					x
Harrison-3rd St					x
5th Street					
Market-Brannan					
6th Street					
Market-Brannan					
7th Street					
Brannan-Market					
8th Street					
Market-Bryant					
9th Street					
Brannan-Market					
10th Street					
Market-Brannan					
19th Avenue/Park Presidio Blvd					
U.S.101-Lake		x			
Lake-Lincoln		x	x		
Lincoln-Sloat			x		
Sloat-J.Serra			x		
Alemany Blvd					
C & C limit-Lyell *		x			
Lyell-Bayshore		x			
Army Street					
Guerrero-Kansas *	x	x			x
Kansas-Bryant *					x
Bryant-3rd St.					x
Bay Street					
Van Ness-Embarcadero					
Bayshore Blvd					
Army-Industrial *			x		x
Industrial- C & C limit			x		x
Beale/Davis					
Clay-Mission					
Brannan Street					
Division-9th St					
6th St-5th St					
Broadway					
Gough-Larkin	x				

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
Larkin-Powell (Tunnel)	x	x			
Powell-Montgomery		x			
Montgomery-Embarcadero			x		
Brotherhood Way					
J.Serra-Alemany					
Bryant Street					
Division-4th St					x
4th St-Embarcadero					x
Bush Street					
Masonic-Gough	x				
Gough-Market *	x		x		
Castro/Divisadero Street					
Pine-Geary			x		
Geary-14th St	x		x		
14th St-Market	x		x		
Clay Street					
Kearny-Davis					
Columbus Avenue					
North Point-Greenwich				x	
Greenwich-Montgomery			x		
Drumm Street					
Washington-Market					
Duboce Avenue					
Market-Mission *	x				
Mission-Potrero	x				
The Embarcadero					
Townsend-North Point					
Evans Avenue					
Army-3rd St *					
Fell Street					
Gough-Laguna					x
Laguna-Stanyan					x
Franklin Street					
Market-Pine			x		
Pine-Lombard	x				
Fremont Street					
Harrison-Market *					
Fulton Street					
Masonic-Arguello		x	x		
Arguello-Park Presidio *		x	x		
Geary Blvd					
Market-Gough	x	x			
Gough-Arguello		x			
Arguello-25th Ave			x		
25th Ave-Great Hwy	x		x		

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
Geneva Avenue					
Phelan-Cayuga	x				
Cayuga-Paris	x				
Paris-Santos	x				
Golden Gate Avenue					
Masonic-Franklin	x	x	x		
Franklin-Market	x	x	x		
Gough Street					
Pine-Geary			x		
Geary-Golden Gate *	x				
Golden Gate-Market	x				
San Jose Avenue/Guerrero					
Army-29th St	x	x			
29th St-Monterey Blvd					x
Harrison Street					
Embarcadero-1st St *					x
1st St-4th St					x
4th St-8th St					x
8th St-13th St					x
Hayes Street					
Market-Gough					
Howard Street					
Embarcadero-S.Van Ness					
Junipero Serra Blvd					
Sloat-19th Ave *		x	x		
19th Ave-Brotherhood Way			x		
Brotherhood-C & C limit			x		
Kearny Street					
Market-Columbus					
King Street					
6th St-Embarcadero					
Lincoln Blvd/Kezar Drive					
19th Ave-5th Ave	x				
5th Ave-Stanyan	x				
Lombard Street					
Francisco-Van Ness *					
Main Street					
Mission-Market					
Market/Portola					
Sloat-Santa Clara	x				
Santa Clara-Clipper *	Grade Change				
Clipper-Castro	x				
Castro-Guerrero	x				
Guerrero-Van Ness			x	x	
Van Ness-Drumm	x				

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
Masonic Avenue					
Pine-Geary			x		
Geary-Page			x		
Mission/Otis					
Embarcadero-3rd St	x				
3rd St-9th St	x				
9th St-14th St	x				
14th St-Army *	x				
Army-Ocean *			x		
Ocean-Sickles	x				
Montgomery Street					
Broadway-Bush					
North Point Street					
Van Ness-Columbus			x		
Columbus-Embarcadero			x		
O'Farrell Street					
Gough-Mason *	x				
Mason-Market	x				
Oak Street					
Stanyan-Divisadero *	x		x		
Divisadero-Laguna	x		x		x
Laguna-Franklin					x
Ocean Avenue					
19th Ave-Miramar *	x				
Miramar-I-280	x				
Pine Street					
Market-Kearny	x				
Kearny-Leavenworth	x				
Leavenworth-Franklin	x				
Franklin-Presidio	x				
Potrero Avenue					
Division-21st St	x			x	
21st St-Army	x			x	
Skyline Drive					
Sloat-City & County limit					
Sloat Boulevard					
Skyline-J.Serra					
Stanyan Street					
Fulton-Turk					
Sutter Street					
Market-Mason *	x				
Mason-Gough	x				
Gough-Divisadero	x		x		
Turk Street					
Market-Hyde	x				
Hyde-Gough	x				

Street Name	Land Use	Speed Limit	Major Cross Street	Change In Volume	Free-way Ramp
Hyde-Gough	x				
Gough-Divisadero	x				
Divisadero-Stanyan			x		
Van Ness Avenue					
Lombard-Washington	Sig.	Syst.	Change		
Washington-GoldenGate Av *	x				
Golden Gate Ave-13th St *					x
13th St-Army					x
Washington Street					
Kearny-Drumm					
West Portal Avenue					
Sloat-Ulloa					

* indicates change in segment boundary.

CMP NETWORK - FREEWAYS

Rationale for Segmentation

Freeway	Split	Off-ramp	On-ramp
I-280			
C & C limit- U.S. 101	x		
101/280 -6th/Brannan	x		
U.S.101			
C & C limit- I-280	x		
I-280- I-80	x		
I-80- Fell/Laguna	x		
I-80			
U.S. 101- Fremont		x	
Fremont- Treasure Island		x	

Table II
Rationale for Changes to Arterial Segmentation
Since 1991

Third Street	Eliminated Fairfax Street as a break point. Evans Avenue is the new break point because of the change in speed limit and because Evans is a major cross street.
Alemany Boulevard	Lyell Street is a necessary break point because of a speed limit change.
Army Street (César Chávez)	Because of the size of the U.S. 101 interchange at Army Street circle, a break point was established on each side of it. One is at Kansas Street and a second is at Bryant Street.
Bayshore Boulevard	Industrial is a necessary break point because of nearby off and on-ramps.
Bush Street	Gough is the best divider to break Bush into two segments because land use changes occur at Gough and because it is a major cross street.
Duboce Avenue	Folsom Street was eliminated as a break point and replaced with Mission Street, because of the presence of on and off ramps to 101.
Evans Avenue and Fremont Street	The 1991 intermediate segment limits could not be justified and were eliminated (no apparent change in traffic flow conditions)
Fulton Street	Arguello was identified as an intermediate segment limit because it is a major cross street and because of a speed limit change.
Harrison Street	Eliminated 2nd Street and substituted First Street is the first break point because of the I-80 on-ramp.
Junipero Serra Boulevard	The first segment boundary is 19th Avenue instead of Holloway, as justified by the change in speed limit and also because 19th Avenue is a major cross street.
Lombard Street	Eliminated intermediate segment boundaries because land uses and traffic conditions are uniform along this street.
Market Street	Established a new segment boundary at Clipper because of a change in grade on each side of Clipper. Eliminated unjustified breaks at Danvers, Sanchez and Gough.
Mission Street	Eliminated intermediate boundaries between 14th and Army and between Army and Ocean to better reflect land use.
O'Farrell Street	Eliminated intermediate segment boundaries at Van Ness, Leavenworth and Taylor, which created segments too short for accurate measurement. Mason is the new break point because of land use changes.
Van Ness Avenue	Added Golden Gate Avenue as an intermediate segment boundary because of land use changes (start of the Civic Center area).

APPENDIX IV

Results of Level of Service Monitoring
1997 Cycle Performance Monitoring

THIS PAGE
INTENTIONALLY LEFT BLANK

Table I

Results of Level of Service Monitoring - Arterials - A.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
1st Street	Market	Harrison	3	S	0.47		*	15.1	C				
3rd Street	Jamestown	Evans	3	N	1.61		*	25.4	B				
	Evans	Jamestown	3	S	1.61		*	22.3	C				
	Evans	China Basin	3	N	1.00	10.3	D	24.0	B				
	China Basin	Evans	3	S	2.40	10.3	D	24.1	B				
	China Basin	Market	3	N	2.40	12.1	D	12.1	D	15.3	C		
4th St/ Stockton	O'Farrell	Harrison	3	S			*	11.6	D	8.1	E	14.6	C
	Harrison	3rd Street	3	S	0.76		*	15.0	C				
5th Street	Market	Brannan	3	S	0.72	7.9	E	11.6	C				
	Brannan	Market	3	N	0.72	7.9	E	10.5	D	10.7	D	12.1	D
6th Street	Market	Brannan	3	S	0.71		*	22.4	B				
	Brannan	Market	3	N	0.71		*	13.8	C				
7th Street	Brannan	Market	3	N	0.72	8.9	E	13.9	C				
8th Street	Market	Bryant	3	S	0.59		*	17.1	C				
9th Street	Brannan	Market	3	N	0.72	9.9	D	12.5	D	13.3	C		
10th Street	Market	Brannan	3	S	0.71	12.1	D	20.5	B				
19th Avenue/ Park Presidio	U.S. 101	Lake	1	S	1.54		*	38.3	A				
	Lake	U.S. 101	1	N	1.57		*	38.8	A				
	Lake	Lincoln	3	S	1.83		*	20.9	B				
	Lincoln	Lake	3	N	1.83		*	21.9	B				
	Lincoln	Sloat	3	S	2.12	11.1	D	17.2	C				
	Sloat	Lincoln	3	N	2.12	11.1	D	19.2	B				
	Sloat	J. Serra	3	S	1.25		*	20.2	B				
	J. Serra	Sloat	3	N	1.25		*	19.2	B				
Alemany	County Line	Lyell	3	E	2.79		*	25.6	B				
	Lyell	County Line	3	W	2.79		*	25.6	B				
	Lyell	Bayshore	3	E	1.42		*	28.5	A				
	Bayshore	Lyell	3	W	1.42		*	35.4	A				
Bayshore	Van Ness	Embarcadero	3	E	0.71	12.7	D	22.4	B				
	Embarcadero	Van Ness	3	W	0.71	12.7	D	19.7	B				

Table I

Results of Level of Service Monitoring - Arterials - A.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Bayshore	Oakdale	I-280	3	S		7.9	E						
	I-280	Oakdale	3	N		7.9	E						
	I-280	Silver	3	S									
	Silver	I-280	3	N									
	Silver	Paul	3	S		4.9	F						
	Paul	Silver	3	N		4.9	F						
	Paul	County Line	3	S									
	County Line	Paul	3	N									
	Army	Industrial	3	S	0.83			21.0	B				
	Industrial	Army	3	N	0.83			20.2	B				
	Industrial	County Line	3	S	2.24			27.4	A				
	County Line	Industrial	3	N	2.24			20.9	B				
Beale/Davis	Clay	Mission	3	S	0.31			11.3	D	10.0	D	16.6	C
Brannan	Division	9th Street	3	E	0.08			14.4	C	9.2	D	10.2	D
	9th Street	Division	3	W	0.08			13.7	C				
	6th Street	5th Street	3	E	0.09			7.7	E	7.7	E	9.3	D
	5th Street	6th Street	3	W	0.09			8.9	E	6.1	F		
Broadway	Gough	Larkin	3	E	0.37			19.2	B				
	Larkin	Gough	3	W	0.37			10.6	D	11.2	D	12.9	D
	Larkin	Powell	1	E	0.54			22.5	B				
	Powell	Larkin	1	W	0.54			35.6	A				
	Powell	Montgomery	3	E	0.34			16.8	C				
	Montgomery	Powell	3	W	0.34			15.2	C				
	Montgomery	Embarcdero	3	E	0.35			11.2	D	9.4	D	15.1	C
	Embarcadero	Montgomery	3	W	0.35			17.7	C				
Bryant	Division	4th Street	3	E	0.99	7.7	E	12.2	D	13.2	C		
	4th Street	Embarcadero	3	E	0.78			21.8	B				
Bush	Masonic	Gough	3	E	1.23			17.3	C				
	Gough	Market	3	E	1.36	3.2	F	10.9	D	9.6	D	11.4	D
Castro/ Divisadero	Pine	Geary	3	S	0.27			14.2	C				
	Geary	Pine	3	N	0.27			10.8	D	7.7	E	7.5	E
	Geary	14th	3	S	1.16			14.8	C				
	14th	Geary	3	N	1.16	4.5	F	14.0	C				
	14th Street	Market	3	S	0.34			11.9	D	10.4	D	13.3	C

Table I
Results of Level of Service Monitoring - Arterials - A.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Castro/ Divisadero	Market	14th Street	3	N	0.34		*	17.5	C				
Cesar Chavez	Guerrero	SVN	3	E	0.36		*	16.1	C				
	SVN	Guerrero	3	W	0.36	5.8	F	17.8	C				
	SVN	Evans	3	E	1.02		*	21.0	B				
	Evans	SVN	3	W	1.02		*	20.6	B				
	Evans	Penn.	3	E			*		~				
	Penn.	Evans	3	W			*		~				
	Penn.	3rd Street	3	E			*		~				
	3rd Street	Penn.	3	W			*		~				
	Guerrero	Bryant	3	E	0.75			19.0	B				
	Bryant	Guerrero	3	W	0.75			19.6	B				
	Kansas	Bryant	3	E	0.37			17.7	C				
	Bryant	Kansas	3	W	0.37			19.9	B				
	Kansas	3rd Street	3	E	0.79			17.6	C				
	3rd Street	Kansas	3	W	0.79			19.4	B				
Clay	Kearny	Davis	3	E	0.37	11.7	D	3.7	E				
Columbus	North Point	Greenwich	3	S	0.50		*	18.6	C				
	Greenwich	North Point	3	N	0.50		*	22.6	B				
	Greenwich	Montgomery	3	S	0.67		*	16.3	C				
	Montgomery	Greenwich	3	N	0.67		*	14.0	C				
Drumm	Washington	Market	3	S	0.23		*	5.3	F	5.3	F		
	Market	Washington	3	N	0.23		*	19.9	B				
Duboce/ Division	Market	Mission	3	E	0.34		*	7.7	E	9.1	D	3.0	F
	Mission	Market	3	W	0.34		*	10.7	D	11.7	D	9.4	D
	Mission	Potrero	3	E	0.64	9.9	D	12.0	D	11.5	D	10.4	D
	Potrero	Mission	3	W	0.64	9.9	D	17.1	C				
Embarcadero	Townsend	North Point	3	N			*	21.2	B				
	North Point	Townsend	3	S			*	15.2	C				
Evans	Army	Toland	3	S	0.18		*	14.3	C				
	Toland	Army	3	N	0.18		*	12.1	D	16.5	C		
	Toland	3rd Street	3	S	0.53		*	17.0	C				
	3rd Street	Toland	3	N	0.53		*	25.9	A				
	Army	3rd Street	3	S	0.71			16.3	C				

Table I

Results of Level of Service Monitoring - Arterials - A.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Evans	3rd Street	Army	3	N	0.71			19.9	B				
Fell	Gough	Market	3	E	0.30			11.6	D	12.0	D	4.3	F
	Gough	Laguna	3	W	0.20			26.7	A				
	Laguna	Stanyan	3	W	1.55			19.0	B				
Franklin	Market	Pine	3	N	1.06	8.5	E	13.3	C				
	Pine	Lombard	3	N	0.82			14.0	C				
Fremont	Harrison	Market	3	N	0.85			6.4	F				
Fulton	Park Pres.	10th Avenue	3	E	0.20			16.7	C				
	10th Avenue	Park Pres.	3	W	0.20			14.2	C				
	10th Avenue	Arguello	3	E	0.53			22.4	B				
	Arguello	10th Avenue	3	W	0.53			22.0	B				
	Arguello	Masonic	3	E	0.66	9.8	D	18.6	C				
	Masonic	Arguello	3	W	0.66			15.9	C				
Geary	Great Hwy.	25th Avenue	3	E	1.47			24.2	B				
	25th Avenue	Great Hwy.	3	W	1.47			28.3	A				
	25th Avenue	Arguello	3	E				21.6	B				
	Arguello	25th Avenue	3	W				21.3	B				
	Arguello	Gough	3	E				25.3	A				
	Gough	Arguello	3	W				23.8	B				
	Market	Gough	3	W				12.3	D	15.4	C		
Geneva	Phelan	Cayuga	3	E	0.57			15.0	C				
	Cayuga	Phelan	3	W	0.57			4.5	F	15.5	C		
	Cayuga	Paris	3	E	0.40	10.4	D	11.7	D	13.0	C		
	Paris	Cayuga	3	W	0.40	10.4	D	11.6	D	13.3	C		
	Paris	Santos	3	E	1.18			29.7	A				
	Santos	Paris	3	W	1.18			27.4	A				
Golden Gate	Masonic	Franklin	3	E	1.36			19.3	B				
	Franklin	Market	3	E		12.2	D	16.9	C				
Gough	Pine	Geary	3	S	0.27	9.5	D	25.6	A				
	Geary	Golden Gate	3	S	0.34			20.1	B				
	Golden Gate	Market	3	S	0.57	8.3	E	12.8	D	11.1	D	6.5	F

Table I

Results of Level of Service Monitoring - Arterials - A.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Guerrero/	Cesar Chavez	29th Street	3	S	0.30		*	26.3	A				
San Jose	29th Street	Cesar Chavez	3	N	0.30	6.2	F	19.3	B				
	29th Street	Monterey	1	S	0.97		*	23.7	B				
	Monterey	29th Street	1	N	1.24		*	17.3	C				
Harrison	Embarcadero	1st Street	3	W	0.34			34.8	A				
	1st Street	4th Street	3	W	0.56			27.6	A				
	4th Street	8th Street	3	W	0.68			28.9	A				
	8th Street	Division	3	W	0.40			14.4	C				
	Embarcadero	2nd Street	3	W	0.49		*		~				
	2nd Street	4th Street	3	W	0.35		*		~				
	4th Street	8th Street	3	W	0.69		*		~				
	8th Street	Division	3	W	0.40		*		~				
Hayes	Market	Gough	3	W	0.38		*	10.2	D	11.1	D	11.6	D
Howard	Embarcadero	SVN	3	W	2.20		*	14.9	C				
J. Serra	Sloat	19th	1	S	1.25		*	32.4	B				
	19th	Sloat	1	N	1.25		*	27.0	C				
	19th	Brotherhood	1	S	0.30		*	19.9	B				
	Brotherhood	19th	1	N	0.30	9.7	D	23.8	C				
	Brotherhood	County Line	1	S	0.37		*	41.9	A				
	County Line	Brotherhood	1	N	0.37		*	40.4	A				
Kearny	Market	Columbus	3	N	0.63	6.3	F	13.7	C				
King	7th Street	2nd Street	3	E			*	12.4	D	15.6	C		
	2nd Street	7th Street	3	W			*	13.9	C				
Lincoln/	19th Avenue	5th Ave.	3	E	0.83		*	22.6	B				
Kezar	5th Ave.	19th Avenue	3	W	0.83		*	25.2	A				
	5th Ave.	Stanyan	3	E	0.69		*	10.7	D	12.2	D	23.4	B
	Stanyan	5th Ave.	3	W	0.69		*	31.7	A				
Lombard	Francisco	Broderick	3	E	0.16	7.6	E		~				
	Broderick	Francisco	3	W	0.16		*		~				
	Broderick	Pierce	3	E	0.31		*		~				
	Pierce	Broderick	3	W	0.31		*		~				
	Pierce	Laguna	3	E	0.45		*		~				

Table I

Results of Level of Service Monitoring - Arterials - A.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Lombard	Laguna	Pierce	3	W	0.45		*		~				
	Laguna	Van Ness	3	E	0.33		*		~				
	Van Ness	Laguna	3	W	0.33		*		~				
	Francisco	Van Ness	3	E	1.28			22.2	B				
	Van Ness	Francisco	3	W	1.28			19.7	B				
Main	Mission	Market	3	N	0.13		*	9.9	D	9.8	D	8.4	E
Market/	Sloat	Santa Clara	3	E	0.41		*	16.0	C				
Portola	Santa Clara	Sloat	3	W	0.41		*	13.2	C				
	Santa Clara	Clipper	3	E	2.45		*	24.1	B				
	Clipper	Santa Clara	3	W	2.45		*	22.8	B				
	Clipper	Castro	3	E	1.67	7.0	F	33.0	A				
	Castro	Clipper	3	W	1.67		*	28.0	B				
	Castro	Guerrero	3	E	0.80	8.7	E	20.0	B				
	Guerrero	Castro	3	W	0.80		*	18.8	B				
	Guerrero	Van Ness	3	E	0.22	8.3	E	16.3	C				
	Van Ness	Guerrero	3	W	0.22	8.3	E	17.8	C				
	Van Ness	Drumm	3	E	1.76	9.6	D	14.4	C				
	Drumm	Van Ness	3	W	1.76	9.6	D	15.3	C				
Masonic	Pine	Geary	3	S	0.27	8.5	E	11.2	D	15.7	C		
	Geary	Pine	3	N	0.27	8.5	E	14.6	C				
	Geary	Page	3	S	0.73	10.0	D	16.4	C				
	Page	Geary	3	N	0.73	10.0	D	13.1	C				
Mission/	Embarcadero	3rd Street	3	S	0.73	9.7	D	8.0	E	10.8	D	14.3	C
Otis	3rd Street	Embarcadero	3	N	0.73	9.7	D	8.9	E	10.8	D	11.2	D
	3rd Street	9th Street	3	S			*	16.9	C				
	9th Street	3rd Street	3	N			*	13.7	C				
	9th Street	14th Street	3	S	0.67	9.7	D	12.8	D	12.8	D	10.7	D
	14th Street	9th Street	3	N	0.65		*	12.0	D	11.3	D	11.0	D
	14th Street	Cesar Chavez	3	S	1.37	10.9	D	17.9	C				
	Cesar Chavez	14th Street	3	N	1.37	10.9	D	19.8	B				
	Cesar Chavez	Ocean	3	S	1.94		*	17.6	C				
	Ocean	Cesar Chavez	3	N	1.94		*	20.3	B				
	Ocean	Sickles	3	S	1.88		*	20.8	B				
	Sickles	Ocean	3	N	1.88		*	21.1	B				
Montgomery	Broadway	Bush	3	S	0.38	6.2	F	6.5	F				

Table I
Results of Level of Service Monitoring - Arterials - A.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
North Point	Van Ness	Columbus	3	E	0.38			15.2	C				
	Columbus	Van Ness	3	W	0.38			15.3	C				
	Columbus	Embarcadero	3	E				14.9	C				
	Embarcadero	Columbus	3	W				16.0	C				
Oak	Stanyan	Lyon	3	E	0.64								
	Lyon	Divisadero	3	E	0.27	7.5							
	Divisadero	Fillmore	3	E	0.36								
	Fillmore	Laguna	3	E	0.27	8.2							
	Laguna	Franklin	3	E									
	Stanyan	Divisadero	3	E	0.91			23.1	B				
	Divisadero	Laguna	3	E	0.63			21.7	B				
	Laguna	Franklin	3	E				20	B				
Ocean	19th Avenue	Miramar	3	E				19.5	B				
	Miramar	19th Avenue	3	W				15.4	C				
	Miramar	Howth	3	E									
	Howth	Miramar	3	W				9.4	D	16.3	C		
O'Farrell	Gough	Mason	3	E	0.93			16.6	C				
	Mason	Market	3	E	0.27			18.7	C				
Pine	Market	Kearny	3	W	0.38	4.6	F	9.9	D	7.3	E	8.1	E
	Kearny	Leavenworth	3	W	0.63			16.2	C				
	Leavenworth	Franklin	3	W	0.46			17.2	C				
	Franklin	Presidio	3	W	1.26			20.0	B				
Potrero	Division	21st Street	3	S	0.80			24.8	B				
	21st Street	Division	3	N	0.80			21.4	B				
	21st Street	Army	3	S				20.1	B				
	Army	21st Street	3	N				25.2	A				
Skyline	Sloat	County Line	3	S	2.32			41.6	A				
	County Line	Sloat	3	N	1.92			43.7	A				
Sloat	Skyline	J. Serra	1	E	1.36			19.8	D	21.5	D	14.5	E
	J. Serra	Skyline	1	W	1.34			23.3	C				
Stanyan	Fulton	Turk	3	N	0.19			12.2	D	12.8	D	13.2	C

Table I
Results of Level of Service Monitoring - Arterials - A.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Stanyan	Turk	Fulton	3	S	0.19		*	11.6	D	7.4	E	16.7	C
Sutter	Market	Mason	3	W	0.56		*	11.6	D	10.2	D	13.2	C
	Mason	Gough	3	W	0.87	9.0	D	12.3	D	13.4	C		
	Gough	Divisadero	3	W	0.82		*	14.1	C				
	Divisadero	Gough	3	E	0.82		*	13.9	C				
Turk	Market	Hyde	3	W	0.37		*	10.9	D	11.6	D	11.2	D
	Hyde	Gough	3	W	0.45		*	14.1	C				
	Gough	Divisadero	3	W	0.82		*	22.1	B				
	Divisadero	Stanyan	3	W	0.91		*	17.1	C				
	Stanyan	Divisadero	3	E	0.91		*	21.0	B				
Van Ness/	Lombard	Washington	3	S	0.58	4.5	F	18.2	C				
SVN	Washington	Lombard	3	N	0.58		*	11.9	D	14.3	D	12.1	D
	Washington	Golden Gate	3	S	0.83		*	15.0	C				
	Golden Gate	Washington	3	N	0.83		*	13.6	C				
	Golden Gate	13th	3	S	1.21		*	17.3	C				
	13th	Golden gate	3	N			*	15.9	C				
	13th	Army	3	S	1.39	12.6	D	15.7	C				
	Army	Market	3	N	1.39		*	20.4	B				
Washington	Drumm	Kearny	3	W	0.20		*	14.2	C				
West Portal	Ulloa	Sloat	3	S	0.38		*	16.1	C				
	Sloat	Ulloa	3	N	0.38		*	17.8	C				

NOTE: Average Speed (AvSp) is an indication of the average travel time. All sample times for each segment were averaged to obtain the AvSp.

* indicates the Level of Service 'C' or better for that particular segment

~ indicates an 'overlap' in segments because of changes in the segmentation boundaries from 1991.

Table II
Results of Level of Service Monitoring - Arterials - P.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
1st Street	Market	Harrison	3	S	0.47	1.2	F	15.5	C				
3rd Street	Jamestown	Evans	3	N	1.56		*	18.5	C				
	Evans	Jamestown	3	S	1.56		*	17.6	C				
	Evans	China Basin	3	N	2.40	10.3	D	18.5	C				
	China Basin	Evans	3	S	2.40	10.3	D	17.0	C				
	China Basin	Market	3	N	1.00	12.1	D	8.8	D	11.6	D	10.2	D
4th St/ Stockton	Market	Harrison	3	S		4.7	F	8.4	E	10.5	D	10.5	D
	Harrison	3rd Street	3	S	0.76		*	23.0	B				
5th Street	Market	Brannan	3	S	0.72	7.9	E	13.5	C				
	Brannan	Market	3	N	0.72	7.9	E	12.7	D	7.7	E	11.3	D
6th Street	Market	Brannan	3	S	0.71	6.7	F	11.5	D	12.0	D	9.4	D
	Brannan	Market	3	N	0.71		*	12.7	D	7.6	E	11.2	D
7th Street	Brannan	Market	3	N	0.72	8.9	E	16.8	C				
8th Street	Market	Bryant	3	S	0.59		*	15.8	C				
9th Street	Brannan	Market	3	N	0.72	9.9	D	12.4	D	9.7	D	13.8	C
10th Street	Market	Brannan	3	S	0.71	12.1	D	20.5	B				
19th Avenue/ Park Presidio	U.S. 101	Lake	1	S	1.54		*	36.4	A				
	Lake	U.S. 101	1	N	1.57		*	35.9	A				
	Lake	Lincoln	3	S	1.83		*	26.4	A				
	Lincoln	Lake	3	N	1.83		*	25.4	A				
	Sloat	Lincoln	3	N	2.12	11.1	D	21.9	B				
	Lincoln	Sloat	3	S	2.12	11.1	D	21.0	B				
	J. Serra	Sloat	3	N	1.25		*	18.4	C				
	Sloat	J. Serra	3	S	1.25		*	17.5	C				
Alemany	County Line	Lyell	3	E	2.79		*	29.5	B				
	Lyell	County Line	3	W	2.79		*	22.1	C				
	Lyell	Bayshore	3	E	1.42		*	32.9	A				
	Bayshore	Lyell	3	W	1.42	4.6	F	30.8	A				
Bay	Van Ness	Embarcadero	3	E	0.71	12.7	D	16.8	C				

Table II

Results of Level of Service Monitoring - Arterials - P.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Bay	Embarcadero	Van Ness	3	W	0.71	12.7	D	12.0	D	15.7	C		
Bayshore	Oakdale	I-280	3	S		7.9	E						
	I-280	Oakdale	3	N		7.9	E						
	I-280	Silver	3	S									
	Silver	I-280	3	N									
	Silver	Paul	3	S									
	Paul	Silver	3	N									
	Paul	County Line	3	S									
	County Line	Paul	3	N									
	Army	Industrial	3	S	0.83			21.0	B				
	Industrial	Army	3	N	0.83			26.4	A				
	Industrial	County Line	3	S	2.24			22.0	B				
	County Line	Industrial	3	N	2.24			22.6	B				
Beale/Davis	Clay	Mission	3	S	0.31			13.4	C				
Brannan	Division	9th Street	3	E	0.08			25.4	A				
	9th Street	Division	3	W	0.08			13.1	C				
	6th Street	5th Street	3	E	0.09			14.3	C				
	5th Street	6th Street	3	W	0.09			11.7	D	11.6	D	10.1	D
Broadway	Gough	Larkin	3	E	0.37			14.6	C				
	Larkin	Gough	3	W	0.37	7.7	E	14.6	C				
	Larkin	Powell	1	E	0.54			38.9	A				
	Powell	Larkin	1	W	0.54			24.7	C				
	Powell	Montgomery	3	E	0.34			16.3	C				
	Montgomery	Powell	3	W	0.34	6.2	F	8.4	E	9.2	D	12.5	D
	Montgomery	Embarcadero	3	E	0.35			13.1	C				
Broadway	Embarcadero	Montgomery	3	W	0.35			15.4	C				
Bryant	Division	4th Street	3	E	0.99	7.7	E	11.8	D	9.8	D	12.8	D
	4th Street	Embarcadero	3	E	0.78			13.2	C				
Bush	Masonic	Gough	3	E	1.23			20.0	B				
	Gough	Market	3	E	1.36	3.2	F	10.1	D	11.5	D	11.7	D
Castro/	Pine	Geary	3	S	0.27			11.6	D	8.1	E	11.0	D
Divisadero	Geary	Pine	3	N	0.27			8.4	E	13.5	C		
	Geary	14th	3	S	1.16			15.7	C				
	14th	Geary	3	N	1.16	4.5	F	12.8	D	11.2	D	12.3	D

Table II
Results of Level of Service Monitoring - Arterials - P.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Castro/	14th Street	Market	3	S	0.34		*	13.8	C				
Divisadero	Market	14th Street	3	N	0.34	7.7	E	16.7	C				
Cesar	Guerrero	Bryant	3	E	0.75			20.7	B				
Chavez	Bryant	Guerrero	3	W	0.75			16.5	C				
	Kansas	Bryant	3	E	0.37			17.5	C				
	Bryant	Kansas	3	W	0.37			26.7	B				
	Kansas	3rd Street	3	E	0.79			17.3	C				
	3rd Street	Kansas	3	W	0.79			16.3	C				
	Guerrero	SVN	3	E	0.36		*	14.5	C				
	SVN	Guerrero	3	W	0.36	5.8	F	17.8	C				
	SVN	Evans	3	E	1.02		*	19.6	B				
	Evans	SVN	3	W	1.02		*	20.5	B				
	Evans	Penn.	3	E			*						
	Penn.	Evans	3	W		6.5	F	16.6	C				
	Penn.	3rd Street	3	E			*						
	3rd Street	Penn.	3	W			*	14.8	C				
Clay	Kearny	Davis	3	E	0.37	11.7	D	7.0	E	8.7	E	10.4	D
Columbus	North Point	Greenwich	3	S	0.50		*	15.2	C				
	Greenwich	North Point	3	N	0.50		*	13.4	C				
Columbus	Greenwich	Montgomery	3	S	0.67	6.3	F	16.0	C				
	Montgomery	Greenwich	3	N	0.67	6.3	F	12.8	D	12.9	D	10.3	D
Drumm	Washington	Market	3	S	0.23		*	9.3	D	3.6	F		
	Market	Washington	3	N	0.23		*	12.8	D	13.5	C		
Duboce/	Market	Mission	3	E	0.34		*	10.0	D	15.4	C		
Division	Mission	Market	3	W	0.34	6.3	F	6.2	F				
	Mission	Potrero	3	E	0.64	9.9	D	14.1	C				
	Potrero	Mission	3	W	0.64	9.9	D	16.4	C				
Embarcadero	North Point	Townsend	3	S			*	9.0	D	16.4	C		
	Townsend	North Point	3	N			*	16.7	C				
Evans	Cesar Chavez	Toland	3	S	0.18		*	20.4	B				
	Toland	Cesar Chavez	3	N	0.18	5.1	F	11.6	D	14.4	C		
	Toland	3rd Street	3	S	0.53		*	21.8	B				
	3rd Street	Toland	3	N	0.53		*	27.6	A				
	Cesar Chavez	3rd Street	3	S	0.71			21.4	B				

Table II
Results of Level of Service Monitoring - Arterials - P.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Evans	3rd Street	Cesar Chavez	3	N	0.71			20.3	B				
Fell	Gough	Market	3	E	0.30		*	13.5	C				
	Gough	Laguna	3	W	0.28	5.6	F	13.3	C	7.3	E	8.2	E
	Laguna	Stanyan	3	W	1.55		*	20.7	B				
Franklin	Market	Pine	3	N	1.06	8.5	E	18.8	C				
	Pine	Lombard	3	N	0.82		*	16.4	C				
Fremont	Harrison	Market	3	N	0.85		*	9.3	D	10.6	D	16.6	C
Fulton	Park P.	Arguello	3	E	0.73		*	20.1	B				
	Arguello	Park P.	3	W	0.73		*	15.9	C				
	Arguello	Masonic	3	E	0.66	9.8	D	13.2	C				
	Masonic	Arguello	3	W	0.66		*	18.9	C				
Geary	Great Hwy.	25th Avenue	3	E	1.47		*	26.2	A				
	25th Avenue	Great Hwy.	3	W	1.47		*	23.9	B				
	25th Avenue	Arguello	3	E			*	21.5	B				
	Arguello	25th Avenue	3	W		11.3	D	20.3	B				
	Arguello	Gough	3	E		11.3	D	22.6	B				
	Gough	Arguello	3	W			*	23.1	B				
	Market	Gough	3	W		6.7	F	9.9	D	14.4	C		
Geneva	Phelan	Cayuga	3	E	0.57		*	12.0	D	17.2	C		
	Cayuga	Phelan	3	W	0.57	6.7	F	10.4	D	12.0	D	9.6	D
	Cayuga	Paris	3	E	0.40	10.4	D	12.1	D	10.5	D	15.5	C
	Paris	Cayuga	3	W	0.40	10.4	D	12.3	D	10.7	D	11.9	D
	Paris	Santos	3	E	1.18		*	20.5	B				
	Santos	Paris	3	W	1.18		*	22.6	B				
Golden Gate	Masonic	Franklin	3	E	1.36		*	20.4	B				
	Franklin	Market	3	E		12.2	D	15.2	C				
Gough	Pine	Geary	3	S	0.27	9.5	D	21.8	B				
	Geary	Golden Gate	3	S	0.34		*	17.1	C				
	Golden Gate	Market	3	S	0.57	8.3	E	16.4	C				
Guerrero/ San Jose	Cesar Chavez	29th Street	3	S	0.30		*	24.0	B				
	29th Street	Cesar Chavez	3	N	0.30		*	12.6	D	7.9	E	17.8	C

Table II
Results of Level of Service Monitoring - Arterials - P.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Guerrero/	29th Street	Monterey	1	S	0.97		*	21.6	D	23.0	C		
San Jose	Monterey	29th Street	1	N	1.24		*	30.8	B				
Harrison	Embarcadero	1st Street	3	W	0.34			11.4	D	11.6	D	9.6	D
	1st Street	4th Street	3	W	0.56			20.5	B				
	4th Street	8th Street	3	W	0.68			19.1	B				
	8th Street	Division	3	W	0.40			13.6	C				
	Embarcadero	2nd Street	3	W	0.49	5.7	F		~				
	2nd Street	4th Street	3	W	0.35	2.9	F		~				
	4th Street	8th Street	3	W	0.69	12.7	D		~				
	8th Street	Division	3	W	0.40		*		~				
Hayes	Market	Gough	3	W	0.38	5.6	F	11.7	D	15.7	C		
Howard	Embarcadero	S. Van Ness	3	W	2.20	5.4	F	13.6	C				
J. Serra	Sloat	19th	1	S	0.91		*	18.0	D	20.6	D	11.8	F
	19th	Sloat	1	N	0.91		*	20.5	D	18.9	D	12.8	F
	19th	Brotherhood	1	S	0.63		*	22.1	C				
	Brotherhood	19th	1	N	0.63		*	19.1	D	21.7	D	23.6	D
	Brotherhood	County Line	1	S	0.37		*	48.1	A				
	County Line	Brotherhood	1	N	0.37		*	40.4	A				
Kearny	Market	Columbus	3	N	0.63	6.3	F	12.9	D	10.8	D	9.2	D
King	7th Street	2nd Street	3	E			*	11.8	D	19.6	B		
	2nd Street	7th Street	3	W			*	16.9	C				
Lincoln/	19th Avenue	5th Ave.	3	E	0.83		*	16.4	C				
Kezar	5th Ave.	19th Avenue	3	W	0.83	11.3	D	20.8	B				
	5th Ave.	Stanyan	3	E	0.69		*	22.8	B				
	Stanyan	5th Ave.	3	W	0.69		*	21.3	B				
Lombard	Francisco	Broderick	3	E	0.16		*		~				
	Broderick	Francisco	3	W	0.16		*		~				
	Broderick	Pierce	3	E	0.31		*		~				
	Pierce	Broderick	3	W	0.31		*		~				
	Pierce	Laguna	3	E	0.45		*		~				
	Laguna	Pierce	3	W	0.45	7.0	F		~				
	Laguna	Van Ness	3	E	0.33		*		~				

Table II
Results of Level of Service Monitoring - Arterials - P.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Lombard	Van Ness	Laguna	3	W	0.33	8.6	E						
	Francisco	Van Ness	3	E	1.28			16.4	C				
	Van Ness	Francisco	3	W	1.28			20.5	B				
Main	Mission	Market	3	N	0.13		*	9.8	D	8.4	E	6.7	F
Market/	Sloat	Santa Clara	3	E	0.41		*	16.5	C				
Portola	Santa Clara	Sloat	3	W	0.41	11.8	D	22.2	B				
	Santa Clara	Clipper	3	E	2.45		*	23.6	B				
	Clipper	Santa Clara	3	W	2.45		*	19.6	B				
	Clipper	Castro	3	E	1.67		*	34.1	A				
	Castro	Clipper	3	W	1.67		*	27.0	A				
	Castro	Guerrero	3	E	0.80		*	15.0	C				
	Guerrero	Castro	3	W	0.80		*	16.5	C				
	Guerrero	Van Ness	3	E	0.42	8.3	E	17.9	C				
	Van Ness	Guerrero	3	W	0.42	8.3	E	12.5	D	8.0	E	10.8	D
	Van Ness	Drumm	3	E	1.76	9.6	D	12.9	D	6.3	F		
	Drumm	Van Ness	3	W	1.76	9.6	D	15.5	C				
Masonic	Pine	Geary	3	S	0.27	8.5	E	9.3	D	12.7	D	16.9	C
	Geary	Pine	3	N	0.27	8.5	E	21.5	B				
	Geary	Page	3	S	0.73	10.0	D	13.4	C				
	Page	Geary	3	N	0.73	10.0	D	13.6	C				
Mission/	Embarcadero	3rd Street	3	S		9.7	D	7.6	D	13.0	C		
Otis	3rd Street	Embarcadero	3	N	0.73	9.7	D	15.9	C				
	3rd Street	9th Street	3	S			*	19.1	B				
	9th Street	3rd Street	3	N			*	19.9	B				
	9th Street	14th Street	3	S	0.67	9.7	D	14.9	C				
	14th Street	9th Street	3	N	0.66		*	12.2	D	9.9	D	9.2	D
	14th Street	Cesar Chavez	3	S	1.37	10.9	D	14.9	C				
	Cesar Chavez	14th Street	3	N	1.37	10.9	D	10.5	D	12.3	D	13.0	C
	Cesar Chavez	Ocean	3	S	1.94		*	15.6	C				
	Ocean	Cesar Chavez	3	N	1.94		*	17.3	C				
	Ocean	Sickles	3	S	1.88		*	15.1	C				
	Sickles	Ocean	3	N	1.88		*	18.1	C				
Montgomery	Broadway	Bush	3	S	0.38	6.2	F	2.4	F				
North Point	Van Ness	Columbus	3	E	0.38		*	15.4	C				
	Columbus	Van Ness	3	W	0.38	8.5	E	20.9	B				

Table II
Results of Level of Service Monitoring - Arterials - P.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
North Point	Columbus	Embarcadero	3	E			*	14.5	C				
	Embarcadero	Columbus	3	W			*	16.9	C				
Oak	Stanyan	Lyon	3	E	0.64		*		~				
	Lyon	Divisadero	3	E	0.27	7.5	E		~				
	Divisadero	Fillmore	3	E	0.36		*		~				
	Fillmore	Laguna	3	E	0.27	8.2	E		~				
	Laguna	Franklin	3	E	0.27		*	23.1	B				
	Stanyan	Divisadero	3	E	0.91			21.6	B				
	Division	Laguna	3	E	0.63			20.1	B				
	Laguna	Franklin	3	E	0.27			23.1	B				
Ocean	19th Avenue	Miramar	3	E	1.10		*	17.1	C				
	Miramar	19th Avenue	3	W	1.10		*	14.6	C				
	Miramar	Howth	3	E	0.48	0.8	F	21.0	B				
	Howth	Miramar	3	W	0.48	6.1	F	14.9	C				
O'Farrell	Gough	Mason	3	E	0.93	5.7	F	13.7	C				
	Mason	Market	3	E	0.27	6.9	F	7.9	E				
Pine	Market	Kearny	3	W	0.38	4.6	F	10.8	D	7.3	E	10.3	D
	Kearny	Leavenworth	3	W	0.63		*	12.9	D	19.8	B		
	Leavenworth	Franklin	3	W	0.46	4.8	F	13.2	C				
	Franklin	Presidio	3	W	1.26		*	15.3	C				
Potrero	Division	21st Street	3	S	0.80		*	22.6	B				
	21st Street	Division	3	N	0.80		*	21.4	B				
	21st Street	Army	3	S		4.8	F	13.7	C				
	Army	21st Street	3	N			*	23.8	B				
Skyline	Sloat	County Line	3	S	2.32		*	42.1	A				
	County Line	Sloat	3	N	1.92		*	44.9	A				
Sloat	Skyline	J. Serra	1	E	1.36		*	19.2	D	24.9	C		
	J. Serra	Skyline	1	W	1.34		*	23.2	C				
Stanyan	Fulton	Turk	3	N	0.19	4.6	F	10.8	D	11.6	D	16.8	C
	Turk	Fulton	3	S	0.19		*	7.6	D	10.5	D	8.0	E
Sutter	Market	Mason	3	W	0.56		*	7.3	E	12.4	D	12.7	D
	Mason	Gough	3	W	0.87	9.0	D	17.0	C				
	Gough	Divisadero	3	W	0.82		*	16.6	C				

Table II
Results of Level of Service Monitoring - Arterials - P.M.

Name	From	To	Class	Travel Dir.	Length (mi)	AvSp 91	LOS 91	AvSp 92/3	LOS 92/3	AvSp 95	LOS 95	AvSp 97	LOS 97
Sutter	Divisadero	Gough	3	E	0.82		*	15.4	C				
Turk	Market	Hyde	3	W	0.37		*	14.9	C				
	Hyde	Gough	3	W	0.45	8.7	E	14.9	C				
	Gough	Divisadero	3	W	0.82		*	27.1	A				
	Divisadero	Stanyan	3	W	0.91		*	19.2	B				
	Stanyan	Divisadero	3	E	0.91		*	14.9	C				
Van Ness/ SVN	Lombard	Washington	3	S	0.58		*	17.7	C				
	Washington	Lombard	3	N	0.58		*	13.2	C				
	Washington	Golden Gate	3	S	0.83	4.6	F	11.7	D	7.0	E	8.4	E
	Golden Gate	Washington	3	N	0.83		*	15.1	C				
	Golden Gate	13th	3	S	1.21	4.6	F	6.9	F				
	13th	Golden Gate	3	N	1.21		*	13.7	C				
	13th	Cesar Chavez	3	S	1.39	12.6		18.2	C				
	Cesar Chavez	13th	3	N	1.39			22.4	B				
Washington	Drumm	Kearny	3	W	0.28		*	10.3	D	12.5	D	8.0	E
West Portal	Ulloa	Sloat	3	S	0.38		*	18.2	C				
	Sloat	Ulloa	3	N	0.38		*	17.1	C				

NOTE: Average Speed (AvSp) is an indication of the average travel time. All sample times for a segment were averaged to obtain the AvSp.
* indicates the Level of Service 'C' or better for that particular segment
~ indicates an 'overlap' in segments because of changes in the segmentation boundaries from 1991.

Table III
Results of Level of Service Monitoring - Freeways - A.M. Peak

INBOUND

Route	From	To	Travel Direction	Length (mi)	AvSp 91	LOS 91	AvSp 93	LOS 93	AvSp 95	LOS 95	AvSp 97	LOS 97
I-280	C & C Limit	US 101	E	4.14	22.9	F	43.0	E	27.3	F		
	U.S. 101	6th/Brannan	NE	3.36	section closed		29.1	F				
US 101	C & C Limit	I-280	N	1.8	10.9	F	47.2	D	31.0	E	30.1	E
	I-280	I-80	N	2.3	21.4	F	21.2	F				
	I-80	Fell/Laguna	NW	1.6	18.7	F	45.4	E	44.8	E	37.6	E
I-80	Treasure I.	Fremont	S	2.13	17.5	F	32.2	E	26.5	F		
	Fremont	US 101	SW	2.13	48.1	D	33.3	E	37.9	E	32.7	E

OUTBOUND

Route	From	To	Travel Direction	Length (mi)	AvSp 91	LOS 91	AvSp 93.0	LOS 93	AvSp 95	LOS 95	AvSp 97	LOS 97
I-280	6th/Brannan	US 101	W	3.4	section closed		51.9	D	46.4	D	54.8	C
	US 101	C & C Limit	SW	4.1	55.7	C	57.5	B				
US 101	Fell/Laguna	I-80	S	1.3	13.5	F	17.9	F				
	I-80	I-280	S	2.3	45.8	E	53.6	D	36.4	E	42.3	E
	I-280	C & C Limit	S	2.1	53.3	D	45.6	E	36.3	E	34.1	E
I-80	US 101	Fremont	N	2.13	18.6	F	53.6	D	36.0	E	32.4	E
	Fremont	Treasure I.	NE	2.13	50.6	D	50.8	D	39.9	E	40.3	E

Table IV
Results of Level of Service Monitoring - Freeways - P.M. Peak

INBOUND

Route	From	To	Travel Direction	Length (mi)	AvSp 91	LOS 91	AvSp 93	LOS 93	AvSp 95	LOS 95	AvSp 97	LOS 97
I-280	C & C Limit	US 101	E	4.14	54.9	C	59.1	B				
	U.S. 101	6th/Brannan	NE	3.36	section	closed	46.3	D	51.0	D	48.6	D
US 101	C & C Limit	I-280	N	1.81	20.6	F	72.4	A				
	I-280	I-80	N	2.28	24.6	F	45.8	E	31.8	E	40.9	E
	I-80	Fell/Laguna	NW	1.64	12.2	F	15.3	F				
I-80	Treasure I.	Fremont	S	2.13	27.5	F	26.3	F				
	Fremont	US 101	SW	2.13	18.6	F	21.5	F				

OUTBOUND

Route	From	To	Travel Direction	Length (mi)	AvSp 91	LOS 91	AvSp 93.0	LOS 93	AvSp 95	LOS 95	AvSp 97	LOS 97
I-280	6th/Brannan	US 101	E	3.36	section	closed	22.9	F				
	US 101	C & C Limit	SW	4.14	51.9	D	56.6	B				
US 101	Fell/Laguna	I-80	S	1.32	18.8	F	13.4	F				
	I-80	I-280	S	2.28	31.6	E	46.3	D	47.2	D	35.5	E
	I-280	C & C Limit	S	2.13	48.1	D	51.1	D	30.8	E	39.2	E
I-80	US 101	Fremont	N	2.13	19.0	F	25.9	F				
	Fremont	Treasure I.	NE	2.13	29.3	F	37.7	E	34.6	E	45.6	E

APPENDIX V

Local Land Use Impacts Analysis Guidelines

THIS PAGE
INTENTIONALLY LEFT BLANK

GUIDELINES FOR ENVIRONMENTAL REVIEW: TRANSPORTATION IMPACTS

July 1991

City and County of San Francisco
Department of City Planning

Contents

Introduction and Overview of Process ____ 1

Analysis Guidelines

1. Project Description ____ 5
2. Project Setting ____ 6
3. Travel Demand Analysis ____ 7
4. Transportation Impacts Analysis ____ 8
   - A. Traffic Impacts ____ 8
   - B. Transit Impacts ____ 9
   - C. Parking Impacts ____ 10
   - D. Pedestrian Impacts ____ 11
   - E. Freight Loading and Service Impacts ____ 11
   - F. Construction Impacts ____ 12
5. Appropriate Transportation Mitigation Measures ____ 13
6. Appendices for Inclusion in Transportation Reports ____ 14

Technical Appendices to Guidelines

1. Trip Generation Rates for Typical Land Uses ____ 15
2. Percent Work/Non-Work Trip Split ____ 16

3.1 C-3 Office Journey-to-Work Trips Based on P.M. Peak Period Residential Distribution and Mode Split ____ 17

3.2 C-3 Non-Office Journey-to-Work Trips Based on P.M. Peak Period Residential Distribution and Mode Split ____ 18

3.3 C-3 Non-Work Trips Based on P.M. Peak Period Residential Distribution and Mode Split ____ 19

3.4 SOMA/Mission Bay Office Journey-to-Work Trips Based on P.M. Peak Period Residential Distribution and Mode Split ____ 20

3.5 SOMA/Mission Bay Non-Office Journey-to-Work Trips and Non-WorkTrips Based on P.M. Peak Period Residential Distribution and Mode Split ____ 21

3.6 Van Ness Avenue Commercial Journey-to-Work Trips Based on P.M. Peak Period Residential Distribution and Mode Split ____ 22

3.7	Van Ness Avenue Commercial Non-Work Trips Based on P.M. Peak Period Residential Distribution and Mode Split	23
3.8	Van Ness Avenue Resident Trips Based on P.M. Peak Period Residential Distribution and Mode Split	24
3.9	Trip Distribution and Modal Split for Chinatown	25
3.10	Commercial Trip Modal Splits for Districts Surveyed in the Neighborhood Commercial Rezoning Study	26
4.1	Intersection Level of Service Analysis Methodology	27
4.2	Greater Downtown San Francisco 1985-2000 Traffic Growth Rates	29
5.1	Parking Demand Calculations for Non-Downtown and Residential Projects	30
5.2	Parking Demand Calculations for C-3, SOMA and Mission Bay Projects	32
5.3	Standard Language for Parking Section of Transportation Impacts Chapter of Office and Mixed Use Commercial Projects in C-3, SOMA and Mission Bay	33
6.	Typical Transportation Mitigation Measures for the Downtown Area	35
7.	Freight Delivery and Service Vehicle Demand	38
8.	Transportation Study Scope of Work Acknowledgement and Approval Form	41
9.	Year 2000 P.M. Peak Hour and P.M. Peak Period Modal Shares for Outbound Travel From Downtown and Vicinity	42

Introduction and Overview of Process

These guidelines have been prepared to aid consultants in preparing transportation analysis for environmental evaluation, both Environmental Impact Reports and Negative Declarations. In all cases that a transportation study is required for environmental analysis, a separate transportation report is to be prepared based on these guidelines, as background for the Negative Declaration or EIR.

The Department will make a determination whether a transportation study and report is necessary. Generally, a transportation report will be required if one or more of the following apply.

1) The project would potentially add at least 50 P.M. Peak Hour person trips;

2) The project would potentially increase existing traffic volumes on streets in its vicinity by at least 5 percent;

3) The project would potentially impact nearby intersections and/or arterials which are believed to presently operate at LOS "D" or worse;

4) The project would provide parking which would appear likely to be deficient, relative to anticipated project demand, by at least 20 percent;

5) The project has elements which have potential to adversely affect transit operations or the carrying capacity of nearby transit services;

6) The project has elements which have potential to adversely affect pedestrian safety or the adequacy of nearby pedestrian facilities;

7) The project would not fully satisfy truck loading demand on-site, when the anticipated number of deliveries and service calls exceed ten daily.

Department staff will use discretion in determining whether a transportation study is needed in special circumstances that may not fit the above criteria.

This set of guidelines updates and revises the September 1983 guidelines for downtown analyses and the Apr 1988 guidelines for neighborhood projects. It reflects the most current data for San Francisco trave characteristics, based on the assumptions used for the Mission Bay, South of Market and Van Ness Avenu EIRs, and other recent environmental analyses.

These guidelines supersede all previously published transportation analysis guidelines. It must be noted tha these are only guidelines. It must not be assumed that the information provided herein constitutes a complete scope of work for any transportation analysis.

For clarification, the following represents an overview of the process involved in the preparation of a transportation analysis for environmental review purposes. No estimate or assumption is made or inferred regarding time lines for the various steps.

1) The project sponsor or a designated representative files an Environmental Review (ER) application with the Department. Once the application is considered complete by the Department a case number is assigned and a staff person from the Department's Office of Environmental Review (OER) is designated as the coordinator for environmental review. This individual will be different than the staff person handling any review necessary for other permit approval, but will coordinate with other Department staff.

2) A scoping meeting is held with the OER staff coordinator (other Department staff may also be involved), the project sponsor and the environmental consultant hired by or being considered by the project sponsor. The scoping meeting will determine the specific issues to be examined in the environmental review process.

3) If the Department determines that a transportation study is required, the consultant or its subconsultant will meet with the Transportation staff of the Department to determine the specific transportation issues to study and determine other parameters as defined in these guidelines. The consultant then prepares a draft transportation analysis scope of work for Departmental review, revision if necessary, and final approval. No work should be initiated by the transportation consultant until a written scope of work has been approved by the Department, including both the Transportation Section and the Office of Environmental Review (OER), by transmittal to the consultant of the form shown in Appendix B.

The Department will make every reasonable effort to anticipate and include in the scope of work typical concerns of other City agencies. However it is not possible for the Department to anticipate in advance all issues and concerns which may later be raised by other Departments such as Muni or the Department

of Parking and Traffic. Ultimately the scope of work may need to be revised after approval such that it adequately addresses the issues raised by all City agencies. Any contractual arrangement between the project sponsor and its consultant preparing the transportation report should reflect flexibility to address other Departments' concerns as they are raised.

Department staff should be contacted to discuss the appropriate work scope only after the project applicant has filed an acceptable Environmental Evaluation with the Department.

4) The consultant will do special studies, such as transportation analysis, and may prepare an Initial Study, so that OER may determine whether the project will need a Negative Declaration or an EIR.

5) Based on the approved scope of work, the consultant (or its subconsultant) conducts the analysis required independent of the project sponsor, and submits drafts directly to the Department for review, comment and approval. It is recognized that more than one submittal of preliminary transportation findings will normally be necessary in order to achieve a satisfactory final transportation report. It is expected that the consultant will work closely with Department transportation and OER staff to ensure that all recommended modifications to preliminary draft submittals are accomplished in a timely fashion. It is expected that, under normal circumstances, up to three drafts of a transportation study may be required before the Department accepts it as final.

In the event that the consultant is unable to produce an acceptable final transportation report within three submittals, absent extenuating circumstances beyond the control of the consultant, the Department will take additional time and exercise greater scrutiny in its review of work submitted by that consultant for future projects, resulting in significant delays to the project sponsor.

6) Pertinent information from the final transporation report will be summarized for inclusion in an EIR or Negative Declaration. The specific information to be extracted and summarized, and the manner in which this information is to be presented in the EIR or Negative Declaration, will be determined on a case-by-case basis under the direction and guidance from the OER staff person assigned to the project.

The selection of the transportation consultant is at the discretion of the project sponsor, contingent upon submittal of an acceptable work scope to Department staff. The consultant's work effort is, however, to be entirely under the direction of the assigned Department staff. All submittals are to be made directly to the Department's Office of Environmental Review. Copies of the draft transportation report will be made available to the project sponsor

only in very unusual circumstances, and any comments by the sponsor must be directed to Department staff, not the transportation consultant. The consultant is expected to respond fully to direction by Department staff without interference from the project sponsor or its representatives.

The role of the project sponsor and its representatives during the preparation of the transportation report should be limited to provision of details concerning the project, response to recommended changes affecting project circulation, and indication of support or lack of support for recommended mitigation measures and other transportation improvements.

Transportation analysis is often a complex and lengthy process. The Department strongly advises that it begin as early as possible, to avoid unnecessary delays.

Analysis Guidelines

Each transportation report for any project is to follow a consistent format as presented here, and include all of the elements and information presented in these guidelines.

1. Project Description

All analyses must include a detailed project description. This information is to be presented as the first section of the document.

The project description must include the following information:

- Case file number for the project, as assigned by the Department.
- Location of the project site - address, Assessor's Block and Lot number(s), cross streets.
- Lot area, and existing and proposed zoning.
- Existing and proposed total square footage for each land use type and the number of units for residential, hotel/motel, and live/work projects, including net changes in each type of use.
- Existing and proposed estimated number of employees and/or residents by type of use, including net changes (Refer to Appendix 3 for employment and residential densities by land use).
- Description and plans for existing and proposed use (if any) of public rights of way by present or proposed uses, either above or below grade (e.g. air rights, surface or subsurface revocable permits), including sidewalk width changes, changes in width or number of traffic lanes, function of lanes in terms of traffic channelization, and direction of travel.

- Detailed plans showing vehicular and pedestrian site access, including location and width of curb cuts for both existing and proposed uses, and proposed internal vehicular circulation, presented in standard architectural or engineering scale.

- Identification of all approval actions required by City departments, including use permits, variances, encroachment permits, changes in public rights-of-way.

2. *Project Setting*

The setting information shall be presented immediately following the Project Description, as a discrete chapter or report section. The goal is to provide a brief but complete description of existing transportation infrastructure and conditions in the vicinity of the project (generally a radius of two blocks or up to one quarter mile). Any quantitative information necessary to make comparisons between existing conditions and those resulting from project implementation and cumulative development should be limited to the project impacts discussions.

The specific perimeters of the study area, for both setting and project impacts analysis, are to be confirmed with Department staff within the context of approval for a scope of work.

The Setting section shall include the following text information:

- Street designations as provided in the Master Plan (Major or Secondary Thoroughfares, Transit Preferential Streets, Bicycle Routes, etc.) including description of number and width of lanes, direction of flow, presence of transit preferential lanes or peak period tow-away lanes affecting roadway travel capacity.

- Access to regional highways and freeways, including location of, distance from, and route to and from on-ramps and off-ramps.

- Description of public transit routes operating on streets within the study area, by operator function (local, express, crosstown, etc.), service areas, hours of service of each route, and type of vehicle (diesel coach, trolley bus, streetcar/subway, etc.). For projects subject to Code Section 321, the report must identify, by operator, all lines within 1/4, 1/3, and 1/2 mile radii of the site.

- Official (legislated, available from Department of Public Works, Maps and Surveys), actual and effective widths of sidewalks immediately adjacent to the project site.

- Characteristics of parking within the study area (typically within a two block radius of the site, but as determined in the approved scope of work), including number of on-street parking spaces, control of on-street parking (e.g. meters, signed for time limit, neighborhood residential permit parking, etc.), number of off-street parking facilities and spaces, and whether off-street parking is provided as independently-accessible stalls, or tandem/stacked valet operation. Any special circumstances affecting the availability of parking in the vicinity of the proposed project (e.g. periods of peaking in parking demand, institutional and other large sources of localized parking demand, or the area's relative degree of parking need as documented in the 1985 Neighborhood Parking Plan or other relevant studies) are to be noted.

The Setting section shall also provide graphics, including:

- Street maps of the study area showing: street names, number and direction of lanes; transit service by line number and with stop locations identified; and location and amount of parking facilities. For projects subject to Code Section 321, the transit map is to show 1/4, 1/3, and 1/2 mile radii lines.

3. *Travel Demand Analysis*

Net new travel demand generated by the project is to be estimated, based on the difference between existing and proposed land uses. Person trip generation rates per employee, unit of square footage for each land use, or other unit of measure as shown in Appendix 1, are to be used.

Each analysis should apply these trip generation rates individually to existing and proposed uses, and show the difference ("net new") by land use and in aggregate.

The Travel Demand Analysis is to include the following, unless otherwise directed in the work scope:

- Project trip generation (24-hour, P.M. Peak Period and P.M. Peak Hour) by land use for existing uses and the project; and

- Tables showing net new person trips distributed to various directions of travel, and assigned to the appropriate modes (auto, transit, walk and other). Modal assignment should also be calculated for daily, P.M. Peak Hour and P.M. Peak Period in all situations (show OUTBOUND ONLY for projects in C-3 District, SOMA and Mission Bay projects).

Note that the weekday P.M. Peak Period is generally 4:00–6:00, and counts will be conducted at least during this period. For projects in the greater downtown, the P.M. Peak hour is 4:30-5:30. For projects in other areas the traffic counts will show the actual peak hour for adjacent streets. The Department may also request counts for different times to reflect the peak period of trip generation by the land use if, based on informed knowledge of the project and its vicinity, it seems reasonable to assume that conditions during such time may be worse than during typical weekday P.M. Peak Hour or Peak Period.

Previous analyses have shown that work and nonwork travel have different geographic distributions and mode splits. Appendix 2 gives Work/Nonwork trip splits by land use. The trip distribution and modal splits shown in Appendix 3 are to be applied to work or non work travel components for the various land uses, by time period of analysis, in calculating the distribution and mode of total net project travel.

4. Transportation Impacts Analysis

Analysis for all projects is to be conducted for project-specific impacts, and for cumulative impacts.

A. Traffic Impacts

Traffic impacts text should begin with a concise discussion of the cumulative context. Year 2000(or other long-range horizon year) analysis is to assume a growth factor for "background" traffic,as specified in Appendix 4. Traffic generated by the project alone, and by all known projectsapproved or under formal review in the general vicinity of the project site, are to be expressed asa percentage of this overall growth factor. If the percentage seems to be so high as to represent an unreasonable share of the anticipated horizon year growth or exceed the overall growth factor,the consultant will need to discuss the issue with Department staff to determine the appropriate methodology.

Specific methodology guidelines are provided in Appendix 4. The specific intersections to be analyzed will be identified in the approved scope of work for the transportation analysis.

Intersection Level of Service analysis for P.M. Peak Hour (unless other periods are also specified in the work scope), including a table showing comparison for each identified intersection between existing, existing plus project, and a future horizon year (inclusion of project traffic is assumed, not additive for horizon year analysis).

B. *Transit Impacts*

In the case of downtown projects, year 2000 conditions for the Muni and regional transit screenlines for outbound travel, as expressed in the Mission Bay FEIR, are to be used to describe the cumulative context. Similar to traffic impacts analysis, the net new transit trips generated by the project should be cited, and also expressed as a percentage of cumulative growth by operator.

For projects outside of the C-3, SOMA and Mission Bay districts, assessment of P.M. Peak Hour and Peak Period conditions for transit operations should reflect travel patronage distributed among the various lines serving the vicinity of the project site, but not include a line-by-line analysis. The aggregation would be expressed as the averaged load factor for all lines serving the project vicinity (e.g. if the project is served by the 71, 7, 6, 33, and N-Judah lines, express the load factor as an average of all 5 lines). Neighborhood projects need not assume cumulative patronage growth for any future horizon year.

Load factors for the aggregated lines are to be cited for existing, existing plus project and, for downtown projects, the horizon year, during P.M. Peak Hour and Peak Period conditions. It should be noted whether the project is upstream or downstream from the Maximum Load Points (MLPs) for Muni lines serving the project.

The estimated number of trips which transfer between regional carriers and Muni lines serving the project should be included in the Muni assignment.

For downtown and vicinity projects, BART demand for West Bay and East Bay directions of travel should be shown separately.

C. Parking Impacts

Project parking demand is to be calculated for both long-term and short-term users for commercial projects, and for resident parking demand in projects which include housing.

In some situations (e.g. when overlapping work shifts of the project or adjacent uses cause an accumulation of parking demand greater than the daily average total), accumulated peak parking demand and its impact should also be quantified.

If a proposed project would displace existing parking, characteristics of such parking should be accounted for as follows:

(1) *the amount of parking reserved for the exclusive use by employees and visitors of uses currently on the site; and*

(2) *the amount of on-site parking which is considered required accessory parking to off-site land uses.*

(3) *the amount of parking available to the general public, characterized separately by long term (monthly or other leases) and short term (available at hourly or daily rates);*

Project parking demand (including, if appropriate, demand for parking displaced) should be compared to Planning Code requirements, and to the amount of parking to be provided.

Impacts of any deficiency in parking supply relative to estimated demand, including current users of public parking to be displaced by the project, should be quantified in terms of the estimated resultant increase in occupancy of available on street and off street facilities.

The amounts of bicycle and handicapped parking to be provided are to be cited and compared with Code requirements (including State and other as appropriate for handicapped parking) and estimated demand.

Identification of any parking access affecting a Transit Preferential Street, or any street identified in the Master Plan for full or partial priority for pedestrians, and any potential conflicts affecting transit, pedestrian or vehicular flow.

Any special circumstances affecting the availability of parking in the vicinity of the proposed project as identified in the Setting Section are to be taken into consideration in the analysis and noted.

D. *Pedestrian Impacts*

Pedestrian trips generated by the proposed project should be estimated for P.M. Peak Hour, midday, and/or the proposed project's peak period of trip generation.

Level of service conditions when appropriate for existing, existing plus project scenarios are to be calculated according to direction from Department OER and Transportation staff. Pushkarev and Zupan pedestrian Level of Service standards and methodology for Average Flow Characteristics Related to Flow in Platoons, or 1985 Highway Capacity Manual methodology (Chapter 13), is considered acceptable for the analysis; appropriate references are to be included.

In the downtown area, growth factors used for future traffic analysis are also to be used to determine growth in pedestrian travel.

Midblock pedestrian Level of Service analysis may, in some situations, be requested in addition to Level of Service analysis at pedestrian crossing (intersection) locations.

E. *Freight Loading and Service Impacts*

Off-street truck loading requirements should be specified according to the Planning Code.

Project truck loading demand and service rate for peak loading period and the entire day should be estimated, using the data shown in Appendix 7, and compared with Planning Code requirements and proposed on-site facilities.

The location, number and dimensions (including vertical clearance) of all spaces provided for freight and service functions, including van size spaces substituted for full size spaces, are to be specified. The location of freight elevators relative to all loading and service parking areas is to be shown, with clear identification of the circulation path between the loading/service stalls and elevators.

If demand exceeds supply for "average" conditions, especially if no off-street loadin facilities are proposed to be included with the project, quantification of resulting impact (e.g. time of day, number of instances and duration of double-parked vehicles) should b made, and details should be provided regarding how service needs would be accommo dated.

If truck movements would require backing into or out of the site on public rights of way, th resultant delays to traffic, transit vehicles and pedestrians are to be characterized.

Identification of truck loading access affecting a Transit Preferential Street, or any stree identified in the Master Plan for full or partial priority for pedestrians, and any potentia conflicts affecting transit, pedestrian or vehicular flow.

In the case that a proposed project would rely on curbside yellow loading zones, an occupancy and turnover analysis is to be conducted for existing curbside loading spaces in the immediate vicinity of the project site, to estimate the probable availability of such spaces to serve the needs of the proposed project, primarily during the 10:00 A.M. to 3:0 P.M. weekday period but also inclusive of additional times as warranted for the specific use(s) proposed.

If applicable, the extent of taxi, tour bus, or other types of passenger loading and unloading needs should be specified including details regarding how these functions would be served. Where a porte cochere or other off-street passenger loading area is required or provided, include plans showing location, lanes, circulation, and all dimensions. Any plans to seek colored marked curbside areas from the Department of Parking and Traffic should be noted.

F. Construction Impacts

The number of daily and P.M. peak period construction truck trips, by construction phase, should be cited.

Closure or temporary use of pedestrian ways, parking lanes or traffic lanes is to be identified, indicating the extent and duration of such closure or temporary use. Impacts associated with such occupation of public rights of way should be quantified, in terms of parking lost, effects on transit operations and loading, or temporary degradation in levels of service for intersections and/or pedestrians.

In large projects, the staging of construction trucks for materials delivery should be cited, and parking needs of construction workers identified.

5. *Appropriate Transportation Mitigation Measures*

Transportation reports are frequently used not only for environmental evaluation but also in the conditional use and other permit processes. It is important to recognize the differences between these processes.

Mitigation measures required to deal with impacts determined to be environmentally significant according to CEQA standards should be clearly identified. When CEQA based mitigation is included as a condition of approval for a project, a monitoring program for each mitigation measure is also required and must be cited.

There are also cases in which no significant transportation impacts are identified and mitigation is not required. In these cases, there may be desirable measures to improve transportation conditions which may be recommended and subsequently included as conditions of project approval. Such measures are NOT to be termed as "mitigation."

Mitigation measures required under CEQA should be clearly distinguished from recommended transportation improvements which are not related to CEQA requirements.

Whenever either type of measure is identified, the following must be cited:

- If implementation would be the responsibility of the project sponsor, indicate whether the project sponsor supports or fails to support each specific recommendation.
- If implementation would be the responsibility of the City or another agency, the responsible department or agency should be identified and its position on each recommendation should be stated.

Typical transportation mitigation measures for downtown area projects, to address significant impacts as defined by CEQA standards, are shown in Appendix 6. While some of these may be appropriate for projects outside of the downtown area, mitigation measures for such projects would generally be a function of the specific conditions and impacts identified by the transportation study for each project.

6. Appendices for Inclusion in Transportation Reports

The following appendices are to be included with all transportation analyses:

- Complete sets of all traffic and pedestrian counts.
- Complete sets of all traffic and pedestrian Level of Service calculations.
- Complete sets of all analysis assumptions (including trip generation rates, transit patronage and capacities, parking turnover rates, mode splits, etc.).
- Intersection LOS definitions and descriptions.
- Transit LOS definitions and descriptions, including photographs of typical conditions representing each LOS.
- Pedestrian LOS definitions and descriptions, including photographs of typical conditions representing each LOS.
- Transportation Study Scope of Work Acknowledgement and Approval form, completed by the Department and showing approval, and a copy of the approved scope of work.

APPENDIX 1

Trip Generation Rates for Typical Land Uses

Land Use	Density[1]	Daily Person Trip Rate: Per Employee	Daily Person Trip Rate: Per Unit Land Use[2]	P.M. Peak Percentage of Daily Trips: Peak Hour	P.M. Peak Percentage of Daily Trips: Peak Period
C-3 Primary Office					
Under 100,000 GSF	258	4.08	19.6	9.5	15.6
100,001-200,000	227	3.38	14.9	10.5	17.3
over 200,000 GSF	275	3.06	11.1	11.3	18.6
C-3 Secondary Office	276	5.0	18.1	6.5	11.5
Government Office	172	12.2	71.0	6.0	10.0
Back Office	210	3.4	16.2	12.5	20.5
Other Office	276	5.0	18.1	8.5	14.0
General Convenience Retail	350	52.5	150	4.0	8.0
Sales/Showrooms					
Composite Rate	721	22.0	30.5	6.5	12.0
Bulk Sales	719	33.6	46.7	6.6	12.0
Showrooms	830	5.0	6.0	6.6	12.0
Services					
Composite Rate	555	10.0	15.2	3.7	11.0
Service Delivery	1234	6.5	5.3	3.7	11.0
Service Repair	775	23.8	30.7	3.7	11.0
Service Institutional	248	7.1	28.6	3.7	11.0
Distribution	1234	12.5	10.2	3.2	6.5
Manufacturing	567	4.5	7.9	12.4	19.0
Eating/Drinking					
Composite Rate			600.0	13.5	27.0
Quality Sit Down			200.0	13.5	27.0
Fast-Food			1400.0	13.5	27.0
C-3 Hotel	909	15.8	17.4	3.2	7.0
Hotel/Motel	822	17.9	21.8	5.5	11.0
Athletic Clubs			57.0	10.5	
Billiards Parlors			2.5[3]		40.0
Daycare Centers			67.0	12.0	N/A
Residential					
Single Family/2+ Bdrm. Multi-Unit			10.0[4]	17.3	21.0
1 Bdrm./Studio			7.5[4]	17.3	21.0

NOTES:
(1)Gross Square Feet per employee
(2)Trips per 1,000 GSF unless otherwise specified
(3)Trips per billard table
(4)Trips per unit

Source:
Mission Bay FEIR
South of Market FEIR
Trip Generation, 5th Edition, ITE

APPENDIX 2

Percent Work/Non-Work Trip Split

	24-Hour	P.M. Peak Hour	P.M. Peak Pe
	Work/Non-Work	Work/Non-Work	Work/Non-Wo
C-3 Districts			
Primary/Back Office	36/64	83/17	83/17
Government Office	20/80	83/17	83/17
Hotel	12/88	60/40	64/36
Retail	4/96	4/96	4/96
Non C-3 Districts			
Primary Office	36/64	83/17	78/22
Back Office	53/47	83/17	78/22
Government Office	20/80	83/17	78/22
Convenience Retail	8/92	8/92	8/92
Hotel/Motel	10/90	45/55	29/71
Sales/Showrooms	8/92	33/67	23/77
Service	18/82	75/25	33/67
Distribution	14/86	75/25	75/25
Manufacturing	40/60	67/33	60/40
Industrial/Warehouse			
Automotive Parking	43/57	43/57	53/47
Residential	33/67	50/50	50/50

Source: Mission Bay FEIR, South of Market FEIR

For commercial/industrial uses, 100% of all work trips during P.M. peak, and 50% of all non-work trips during P.M. peak, are outbound.

For residential uses, all P.M. peak work trips and 33% of all P.M. peak non-work trips are inbound to the project; residen inbound/outbound trip directions may or may not correspond to peak outbound regional travel direction.

APPENDIX 3.1

C-3 Office Journey to Work Trips Based on P.M. Peak Period Residential Distribution and Mode Split

	Distribution	Mode Split	
NE San Francisco	10%	Drive Alone	57%
		Carpool	3
		MUNI	32
		BART	1
		Walk	47
		Other	1
NW San Francisco	17%	Drive Alone	22 %
		Carpool	11
		MUNI	64
		Other	2
SE San Francisco	5%	Drive Alone	22 %
		Carpool	11
		MUNI	11
		BART	19
		Other	9
SW San Francisco	17%	Drive Alone	18 %
		Carpool	14
		MUNI	62
		BART	3
		Other	1
North Bay	11%	Drive Alone	29 %
		Carpool	14
		Vanpool	1
		Charter/Club Bus	4
		GG Bus	41
		Ferry	12
East Bay	27%	Drive Alone'	8 %
		Carpool'	8
		Vanpool	6
		BART'	55
		AC'	22
		Charter/Club Bus	1
		Ferry	1
Peninsula	6%	Drive Alone	23 %
		Carpool	24
		Vanpool	1
		MUNI	2
		BART	25
		SamTrans	9
		CalTrain	13
		Other	1
Internal to C-3	4%	Drive Alone	2 %
		MUNI	83
		BART	1
		Walk	11
		Other	2

'P.M. Peak mode splits to the East Bay have been adjusted to account for return trips on BART, AC Transit and Drive Alone modes by those who participate in "casual carpools" for their morning commute. As a result, shares for these three modes are higher and carpool mode shares lower in the evening than those reflected in previous guidelines which primarily reflected morning commute trips. Adjustments were based on recent patronage and recent commute surveys, as described below.

Source: San Francisco Department of City Planning, "Journey to Work Trips by Residence and Workplace in the San Francisco Bay Area," Technical Report, January 1984.

APPENDIX 3.2

C-3 Non-Office Journey to Work Trips Based on P.M. Peak Period Residential Distribution and Mode Split

	Distribution	Mode Split	
NE San Francisco	11.4%	Drive Alone	5.2%
		Carpool	2.9
		MUNI	42.9
		BART	0.5
		Walk	46.9
		Other	1.5
NW San Francisco	20.5%	Drive Alone	22.1%
		Carpool	11.5
		MUNI	62.3
		BART	0.2
		Walk	0.2
		Other	0.5
SE San Francisco	10.2%	Drive Alone	27.5%
		Carpool	10.4
		Vanpool	1.5
		MUNI	22.9
		BART	19.3
		Walk	0.5
		Other	8.0
SW San Francisco	22.5%	Drive Alone	18.5%
		Carpool	10.3
		Vanpool	0.2
		MUNI	61.5
		BART	8.2
		Other	0.3
Peninsula	7.5%	Drive Alone	22.1%
		Carpool	24.55
		Vanpool	0.3
		MUNI	2.0
		BART	24.3
		SamTrans	8.5
		CalTrain	15.1
		Other	1.1
East Bay	11.5%	Drive Alone	5.3%
		Carpool	16.3
		Vanpool	8.7
		BART	47.3
		AC	22.0
		Charter	0.7
North Bay	2.7%	Drive Alone	27.3%
		Carpool	14.4
		Vanpool	2.3
		GG Bus	23.4
		Ferry	11.1
		Charter	4.3
		Other	0.2
Marin	10.7%	Drive Alone	2.7%
		Carpool	0.7
		MUNI	45.1
		BART	0.7
		Walk	54.3
		Other	1.3

Source: Mission Bay FEIR, Supporting Documentation Vol. VI, 1985 Cumulative Forecasts

APPENDIX 3.3

CMA Non-Work Trips Based on P.M. Peak Period Residential Distribution and Mode Split

	Distribution	Mode Split	
NE San Francisco	1.5%	Drive Alone	2.5%
		Carpool	7.5
		MUNI	10.1
		BART	0.3
		Walk	58.1
		Other	1.1
NW San Francisco	1.5%	Drive Alone	22.4%
		Carpool	20.0
		MUNI	34.1
		BART	0.2
		Walk	10.4
		Other	2.3
SE San Francisco	2.5%	Drive Alone	28.4%
		Carpool	30.0
		MUNI	21.2
		BART	15.3
		Walk	2.9
		Other	2.1
SW San Francisco	2.5%	Drive Alone	20.7%
		Carpool	32.2
		MUNI	40.4
		BART	5.0
		Other	1.7
Peninsula	3.0%	Drive Alone	45.5%
		Carpool	27.5
		MUNI	3.0
		BART	9.0
		SamTrans	5.0
		CalTrain	9.1
		Other	0.9
East Bay	6.0%	Drive Alone	44.0%
		Carpool	17.5
		BART	24.3
		AC	14.2
North Bay	2.0%	Drive Alone	54.0%
		Carpool	22.2
		GG Bus	20.0
		Ferry	3.3
Internal	81.0%	Drive Alone	8.7%
		Carpool	9.3
		MUNI	10.7
		BART	2.3
		Walk	28.1
		Other	1.1

Source: Mission Bay FEIR, Supporting Documentation Vol. VI, 1985 Schedule Forecasts

APPENDIX 3.4

SCWA/Mission Bay Office Journey-To-Work Trips
Based on P.M. Peak Period Residential Distribution and Mode Split

	Distribution	Mode Split	
NE San Francisco	6.2%	Drive Alone	22.3%
		Carpool	15.4
		MUNI	40.5
		Walk/Bike	21.2
NW San Francisco	5.2%	Drive Alone	26.5%
		Carpool	8.1
		MUNI	54.2
		Walk/Bike	3.2
SE San Francisco	15.4%	Drive Alone	37.2%
		Carpool	25.3
		MUNI	20.3
		BART	2.0
		Walk/Bike	2.3
		Other	1.2
SW San Francisco	16.3%	Drive Alone	22.5%
		Carpool	6.5
		MUNI	42.7
		BART	14.3
		Other	13.7
Peninsula	15.1%	Drive Alone	18.5%
		Carpool	13.3
		BART	11.5
		SamTrans	15.1
		CalTrain	30.2
		Charter Bus	5.3
East Bay	25.5%	Drive Alone	11.2%
		Carpool	31.8
		Vanpool	10.5
		BART	22.3
		AC	21.5
		Charter Bus	2.5
North Bay	10.1%	Drive Alone	10.2%
		Carpool	10.5
		GG Bus	52.1
		Ferry	11.0
		Charter Bus	3.3
Internal to SCWA and Mission Bay	2.1%	Drive Alone	22.7%
		Carpool	15.4
		MUNI	41.3
		Walk/Bike	18.3

Source: South of Market REIR; extracted from Dept. model input tapes for Scenario 2 within the SCWA study area, which represents the bulk of office space.

APPENDIX 3.5

SCHA and Mission Bay Non-Office Journey-to-Work Trips and Non-Work Trips
Based on P.M. Peak Period Residential Distribution and Mode

	Distribution	Mode Split	
	Work/Non-Work		Work/Non-Work
NE San Francisco	5.3% / 3.2%	Drive Alone	21.5% / 23.0%
		Carpool	7.9 / 25.0
		Vanpool	0.7 / –
		MUNI	44.3 / 11.0
		Walk	24.7 / 16.0
		Other	0.2 / –
		Bart	– / 2.0
		Bike	– / 3.0
NW San Francisco	4.5% / 3.4%	Drive Alone	30.3% / 34.0%
		Carpool	14.5 / 26.0
		Vanpool	0.3 / –
		MUNI	42.0 / 24.0
		Walk	– / –
		Bike	0.6 / 3.0
		Other	0.7 / 3.0
SE San Francisco	22.4% / 3.4%	Drive Alone	31.5% / 34.0%
		Carpool	7.4 / 26.0
		MUNI	22.1 / 24.0
		BART	2.3 / –
		Walk	0.7 / 3.0
		Bike	2.9 / 3.0
		Other	0.5 / –
SW San Francisco	15.3% / 3.4%	Drive Alone	45.3% / 34.0%
		Carpool	11.5 / 26.0
		MUNI	22.4 / 24.0
		BART	6.3 / –
		Walk	0.5 / 3.0
		Other	3.0 / –
Peninsula	13.1% / 3.2%	Drive Alone	50.1% / 43.0%
		Carpool	11.1 / 32.0
		Vanpool	0.2 /
		MUNI	0.2 /
		BART	9.4 /
		SamTrans	5.0 /
		CalTrain	12.3 /
		Charter	1.1 /
		Other	0.2 /
East Bay	21.3% / 1.1%	Drive Alone	28.0% / 43.0%
		Carpool	13.5 / 32.0
		Vanpool	4.0 /
		BART	24.3 /
		AC	11.2 /
		Charter	2.0 /
North Bay	11.5% / 5.2%	Drive Alone	31.3% / 43.0%
		Carpool	25.3 / 32.0
		Vanpool	0.2 /
		GG Bus	24.3 /
		Ferry	5.3 /
		Charter	1.7 /
Internal to SCHA and Mission Bay	3.2% / 31.0%	Drive Alone	19.2% / 23.0%
		Carpool	9.2 / 25.0
		Vanpool	0.4
		MUNI	45.3 / 11.0
		BART	2.0
		Walk	23.1 / 20.0
		Other	0.3 / 0.0 [illegible]

APPENDIX 3.5

Van Ness Avenue Commercial Journey To Work Trips
Based on P.M. Peak Period Trip Distribution and Mode Split

	Distribution	Mode Split	
NE San Francisco	12.2%	Drive Alone	4.9%
		Carpool	7.9
		MUNI	43.4
		Walk	42.2
		Other	1.5
NW San Francisco	15.5%	Drive Alone	2.7%
		Carpool	14.8
		MUNI	61.0
		Walk	2.0
		Other	1.9
SE San Francisco	17.0%	Drive Alone	20.5%
		Carpool	17.5
		MUNI	43.0
		BART	11.3
		Walk	0.4
		Other	1.7
SW San Francisco	7.2%	Drive Alone	24.5%
		Carpool	16.4
		MUNI	53.3
		BART	3.3
		Other	1.4
Peninsula	13.5%	Drive Alone	41.5%
		Carpool	25.6
		MUNI	2.4
		BART	16.5
		SamTrans	8.1
		CalTrain	2.3
East Bay	19.0%	Drive Alone	21.5%
		Carpool	12.0
		Vanpool	4.1
		BART	51.4
		AC	3.2
North Bay	9.5%	Drive Alone	19.5%
		Carpool	24.3
		Vanpool	4.3
		GG Bus	45.5
		Ferry	4.0
		Charter/Club Bus	2.0
Internal to Van Ness Corridor	5.2%	Drive Alone	12.45%
		Carpool	8.7
		MUNI	27.3
		Walk	53.3
		Other	8.3

Source: Van Ness Avenue FEIR, Appendix I

APPENDIX 17

Van Ness Avenue Commercial Non-Work Trips
Based on P.M. Peak Period Trip Distribution and Mode Split

	Distribution	Mode Split	
NE San Francisco	13.0%	Drive Alone	37.4%
		Carpool	13.3
		MUNI	25.4
		Walk	14.0
		Other	2.4
NW San Francisco	25.7%	Drive Alone	45.3%
		Carpool	11.1
		MUNI	30.3
		Walk	10.0
		Other	2.3
SE San Francisco	12.7%	Drive Alone	50.3%
		Carpool	18.4
		MUNI	21.3
		BART	4.2
		Walk	3.5
		Other	1.9
SW San Francisco	4.2%	Drive Alone	47.5%
		Carpool	10.9
		MUNI	36.4
		BART	3.5
		Other	1.7
Peninsula	10.5%	Drive Alone	58.2%
		Carpool	23.5
		MUNI	0.2
		BART	7.0
		SamTrans	3.0
		Other	2.5
East Bay	14.7%	Drive Alone	43.9%
		Carpool	7.5
		BART	44.0
		AC	4.6
North Bay	5.3%	Drive Alone	45.4%
		Carpool	11.3
		GG Bus	29.0
		Ferry	4.7
Inbound to Van Ness Corridor	7.3%	Drive Alone	10.3%
		Carpool	5.5
		MUNI	10.1
		Walk	69.3
		Other	0.3

Source: Van Ness Avenue FEIR, Appendix I

APPENDIX 3.3

Van Ness Avenue Resident Trips
Based on P.M. Peak Period Distribution[1] and Mode Split

	Distribution	Mode Split	
	Work/Non-Work		Work/Non-Work
NE San Francisco	59.1% / 12.7%	Drive Alone	14.3% / 29.3%
		Carpool	11.1 / 29.2
		MUNI	53.3 / 37.9
		Walk	13.4 / 3.3
		Other	1.9 / 0.2
NW San Francisco	17.4% / 9.2%	Drive Alone	37.7% / 18.1%
		Carpool	11.3 / 22.5
		MUNI	31.3 / 44.3
		Walk	16.7 / 10.4
		Other	2.5 / 3.1
SE San Francisco	9.2% / 6.5%	Drive Alone	45.2% / 17.7%
		Carpool	9.5 / 12.5
		MUNI	40.5 / 60.0
		Walk	2.4 / 1.3
		Other	2.2 / 8.0
SW San Francisco	2.7% / 5.4%	Drive Alone	86.7% / 10.4%
		Carpool	4.3 / 11.5
		MUNI	25.7 / 72.0
		BART	0 / 5.0
		Other	2.7 / 0
Peninsula	5.7% / 5.3%	Drive Alone	65.0% / 25.5%
		Carpool	15.5 / 17.2
		MUNI	1.3 / 0
		BART	10.0 / 40.1
		SamTrans	6.0 / 7.0
		Other	1.7 / 0
East Bay	5.2% / 1.5%	Drive Alone	70.0% / 25.1%
		Carpool	9.0 / 22.1
		BART	18.0 / 42.0
		AC	1.0 / 0.3
		Charter/Club Bus	2.0 / 0
North Bay	1.2% / 1.1%	Drive Alone	71.5% / 12.4%
		Carpool	17.5 / 87.5
		GG Bus	6.0 / 0
		Charter/Club Bus	5.5 / 0
Internal to Van Ness Corridor	0% / 57.2%	Drive Alone	0 / 4.4%
		Carpool	0 / 8.7
		MUNI	0 / 25.0
		Walk	0 / 50.3
		Other	0 / 2.1

Source: Van Ness Avenue FEIR, Appendix I

Note that for work trips, prospective distribution represents the zone location of trips to destinations on/from the Van Ness Avenue Corridor.

APPENDIX 3.3

Trip Distribution and Modal Split for Chinatown

Chinatown		Work Trips			Non-Work Trips	
		Distribution		Mode Split	Distribution	Mode Split
SF	NE	22%	Drive Alone	7%	25%	7%
			*Shared Ride	4%		16%
			Muni	14%		57%
			Walk	75%		56%
	NW	19%	Drive Alone	57%	15%	16%
			Shared Ride	7%		23%
			Muni	56%		56%
	SE	7%	Drive Alone	57%	5%	16%
			Shared Ride	7%		23%
			Muni	43%		59%
			Bart/Other Transit	8%		1%
	SW	25%	Drive Alone	57%	15%	16%
			Shared Ride	7%		23%
			Muni	49%		59%
			Bart/Other Transit	7%		1%
Peninsula		3%	Drive Alone	57%	17%	58%
			Shared Ride	16%		57%
			Bart/Other Transit	27%		5%
E. Bay		5%	Drive Alone	53%	5%	53%
			Shared Ride	27%		59%
			Bart/Other Transit	45%		7%
N. Bay		1%	Drive Alone	57%	4%	53%
			Shared Ride	15%		59%
			Bart/Other Transit	27%		7%

Source: Transportation Impact Analysis for Chinatown Rezoning, Jan 87, DCP

*Shared Ride Vehicle Occupancy Assumed at 2.7 persons per vehicle

APPENDIX 3.10

Commercial Trip Modal Splits for Districts Surveyed in the Neighborhood Commercial Rezoning Study

Modal distribution of person trips for projects in the Geary Street, Polk Street and Broadway NCD's only shall be shown among auto, transit, pedestrian, and other modes based on the following survey results from NCRS EIR, Appendix B.

	Geary Blvd.	Polk St.	Broadway
Drive	23%	24%	41%
MUNI	39%	11%	13%
Walk	26%	62%	33%
Other	2%	3%	11%
Average Auto Occupancy	2.1%	2.0%	2.5%

In all other NCD's or neighborhoods, mode splits shall be based on surveys of existing similar uses in the vicinity of the proposed project, or other means, as directed by Department staff through the work scope.

APPENDIX 4.1

INTERSECTION LEVEL OF SERVICE ANALYSIS METHODOLOGY

Level of Service analysis for existing conditions are to be based on traffic counts taken by the Department of Parking and Traffic not more than three years old, data in certified EIRs or background transportation studies supporting certified Negative Declarations for which the counts data is no more than three years old, and/or turning movement counts to be made by the consultant at each affected intersection. Copies of all counts used in the analysis, and level of service calculations, are to be included with the report as an appendix.

Level of Service analysis for existing conditions plus the project is to be based on an assignment of net new project vehicular trips compared to existing conditions for each of the affected streets and intersections in the study area.

Level of Service must also be estimated and shown for future conditions, with a horizon year approximately 10 years in the future. The future horizon year should be expressed as 2000, 2005, 2010, 2015, etc.; five year increments in the expression of the future year should be used. Analysis of future conditions will use a growth factor for travel in the general geographic area of the project site. This growth factor will generally assume that net new travel attributable to the project is included, such that it will not normally be necessary to add project travel to the growth rate.

Growth factors for three sectors of the downtown and vicinity, reflecting trip growth from 1985 through 2000, are shown in Appendix 4.3. The overall 15-year factor should be converted to an annualized factor, and the annual factor used to determine the growth rate for the portion of the 1985 - 2000 15-year period. (e.g. 1991 - 2000 growth factor would be 9 X annualized factor).

For other areas, analysis should incorporate impacts based on all identified area development that is reasonably foreseeable, growth identified and analyzed in relevant planning reports and accompanying environmental analyses (e.g. NCRS, Rincon Hill and Van Ness Avenue EIRs), and growth in through background travel (estimated by DPT Bureau of Traffic Engineering at one percent per year).

For projects located within neighborhoods for which a specific development framework has been elaborated in previous environmental analyses, the cumulative transportation analysis for the project shall encompass the time period which corresponds to the appropriate areawide study analysis. Where no such analysis has been completed, a 10-year time frame should be assumed for cumulative analysis. Identification of specific area projects and relevant growth rates for through background travel shall be verified with Department CER and Transportation staff prior to the initiation of the analysis.

Standard methodologies to calculate intersection Level of Service are to be employed as follows:

Signalized Intersections - TRB Circular 212 Planning Methodology

In some situations it may be necessary to adjust the capacity of the intersection to account f localized constraints. This would be done by conducting a saturation flow analysis where, base on informed knowledge of the study area it may be determined that standard values of the Circul 212 will require adjustment. The scope of work will note that an adjusted intersection capacity w be determined by the traffic consultant on the basis of the saturation flow analysis prior t submission of the first draft report. In other cases, it may become apparent after initial staff revie of the calculations that a saturation flow analysis is warranted to determine effective intersectio capacity.

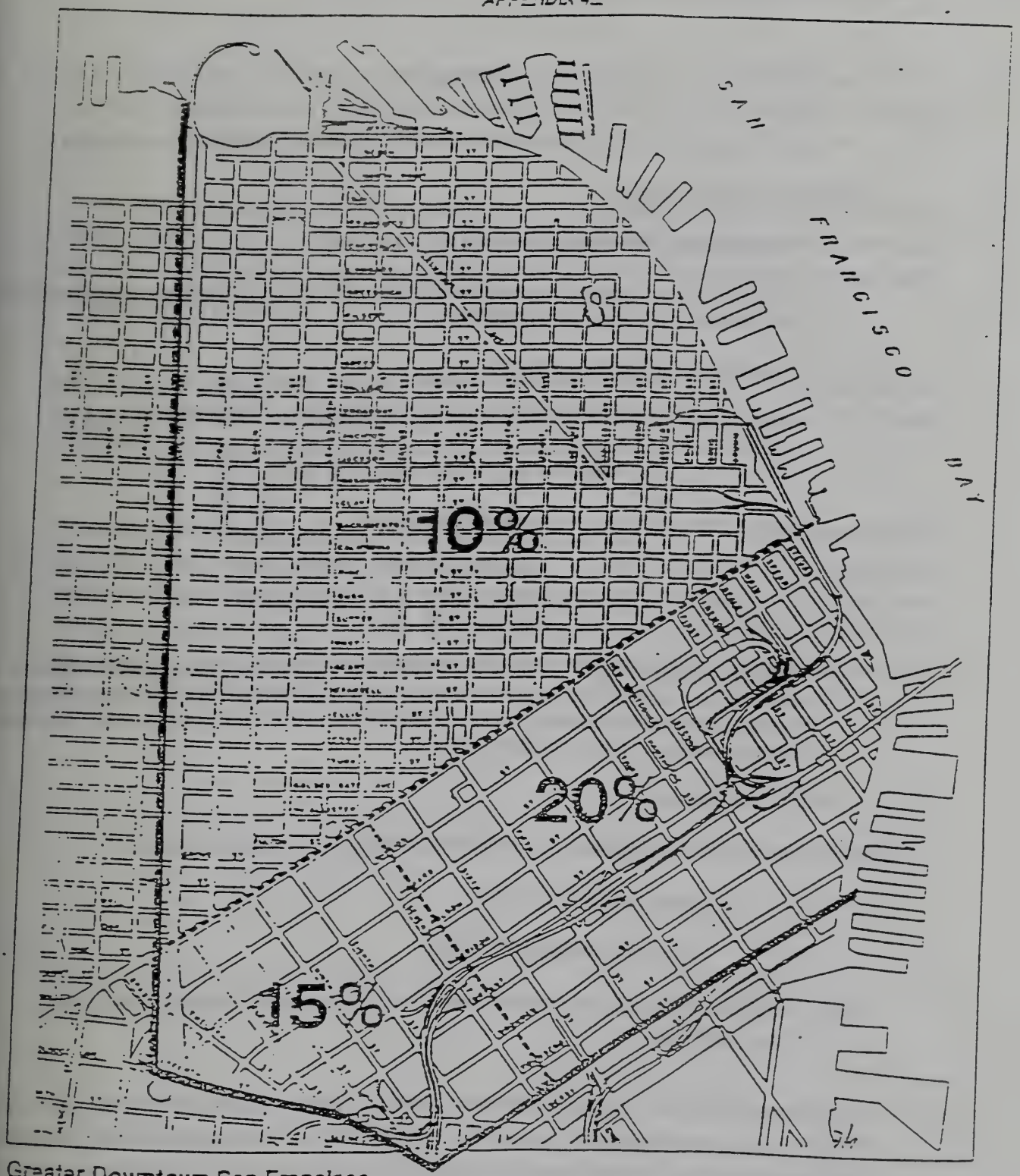
Unsignalized Intersections (all-way stop sign control) - TRB Circular 373

Note: Circular 373 is to be used only for methodology described therein for unsignalized all-way stop intersections; methodologies for other types of intersections shall be as specified in these Departmental guidelines.

T Intersections with single stop control, and Intersections with 2-way stop sign control

1985 Highway Capacity Manual Unsignalized Method (Chapter 10).

APPENDIX 4.2



Greater Downtown San Francisco
1985 - 2000 Traffic Growth Rates

S. F. Department of City Planning 3/90

Source: Derived from Mission Bay and South of Market EIR's

APPENDIX 8.1

PARKING DEMAND CALCULATIONS FOR NON-DOWNTOWN AND RESIDENTIAL PROJECTS

1. Commercial Parking Demand

A. Commercial Long-Term Parking Demand

In general this is equivalent to the total number of journey-to-work vehicle trip ends generated by the project (both drive-alone and rideshare), divided by 2.

B. Commercial Short-Term Parking Demand

Projects outside of the C-3 Districts, SOMA and Mission Bay are to use the following equation.

$$\left[\frac{\left(\frac{\text{Total project non-work auto person trip ends}}{\text{1.2 persons per vehicle}}\right)}{\text{2 one-way auto trips}}\right] \Big/ \text{Parking turnover rate}$$

The turnover rate may vary for individual projects and is to be based on surveys of parking turnover for established uses comparable to those of the proposed project, preferably within the same general area. However, a turnover rate of greater than 5 per day should not be used unless supported by independent surveys reviewed and accepted by Department staff.

2. Resident Parking Demand

New residential projects should generally use the following ratios to estimate parking demand.

1.1 vehicles/studio or 1-bedroom apt.

1.5 vehicles/multiple bedroom unit

(Source: Recht Hausrath Assoc. 1986 downtown resident survey, Residential Conservation Rezoning Study, DCP, 1990)

Note: The foregoing resident parking demand ratios are highly generalized, averaged rates derived from surveys of a variety of housing types and locations in San Francisco. The transportation consultant would normally be expected to use these average ratios. However, there may be circumstances, such as the type, expected occupancy, or location of the housing, which justify the use of different ratios. In situations that the Department, in the course of

establishing the transportation work scope, concurs that such circumstances exist, the consultant will be authorized to conduct independent surveys of resident auto ownership for similar types of projects to establish and support different rates.

The Department will use these surveys and its own surveys carried out subsequent to publication of these guidelines to refine and develop more specific rates for a variety of housing types. When such revised standards are developed they shall be made available to the consultant at the time a work scope for a project proposal is outlined pending amendment of this document.

In certain circumstances it may be necessary to determine both estimated parking demand for the proposed project and existing residential units on the project site and/or on the general project vicinity. Estimation of parking demand for the proposed project must use one of the methods previously described.

To estimate parking demand of existing residential uses, 1980 U.S. Census data (1990 when it becomes available) may be used in neighborhood situations, for the tract in which the proposed project is located plus abutting tracts of similar residential character. If 1980 data is used, the average auto ownership rate as shown for these tracts should be multiplied by a factor of 1.14, to reflect increasing auto registration in San Francisco since 1980 and the observed tendency for occupants of newly constructed dwelling units to have greater auto occupancy rates than those of older units.

APPENDIX 3.C

PARKING DEMAND CALCULATIONS FOR C-3, SOMA and MISSION BAY PROJECTS***

1. PROJECT PARKING DEMAND

1A. *Project long term*

Project office GSF / 20,000	project ridesharc demand
+	plus
Project office GSF / 275 GSF/employee x 0.11 drive alone demand	
+	project drive alone
Project retail GSF / 350 GSF/employee x 0.15 drive alone demand	
=	equals
	PROJECT LONG TERM PARKING DEMAND

1B. *Project short term*

Project office GSF / 20,000	+	Project retail GSF / 1,000	*PROJECT SHORT TERM PARKING DEMAND*

(1A) + (1B) = TOTAL PROJECT PARKING DEMAND

*** Derived from September 1983 transportation guidelines, and May 4, 1989 memo, Dean L. Macris to City Planning Commission

2. NET ADDITIONAL PARKING DEMAND

[Total Project Parking Demand]	sum of quotients from 1A and 1B above
-	minus
[Parking Demand of Existing Uses]	apply equations 1A and 1B to existing office and retail uses on the site
=	equals
	NET ADDITIONAL PARKING DEMAND

Note: These calculations as applied to the project should be readily available, either in a footnote or an appendix.

APPENDIX 5.3

STANDARD LANGUAGE TO BE USED FOR THE PARKING SECTION OF TRANSPORTATION IMPACTS CHAPTER OF OFFICE AND MIXED USE COMMERCIAL PROJECTS IN C-3, SOMA AND MISSION BAY

Parking

Parking demand was projected for the proposed ____ Street project on the basis of the estimated vehicular traffic generated by the project. The project would create long term parking demand for about *(see equation 1A)* spaces (including *(see equation 1A)* carpool/vanpool spaces), and short term parking demand for *(see equation 1E)* equivalent daily spaces, for a total parking demand of *(sum of 1A plus 1E)* daily spaces. Discounting for parking demand generated by existing uses on the site, the net additional parking demand generated by the proposed project would be about *(see equation 2)* spaces. The proposed project would provide about _____ gross square feet of parking area which the Department of City Planning estimates could accommodate about _____ vehicles with tandem valet operations.[FN]

Existing parking facilities on the site currently include a total of ____ parking spaces.[FN] A total of _____ existing parking spaces are private, and reserved for the exclusive use of employees currently working in existing uses on the site. Of the _____ existing parking spaces made available to the general public, _____ leases are currently valid and ___% of the public parking is, therefore, considered long term. ___% of the public parking (____ spaces) are available for short term use.

The proposed project would eliminate ___ existing parking spaces available to the general public,[FN] resulting in a total unmet demand of about _____ equivalent daily spaces (total project demand + displaced public parking - proposed parking capacity = _____ spaces total unmet demand). Occupancy in off-street public parking lots and garages within a 1/4 mile radius of the project's site may be expected to increase from the existing ___% to ___% as a result of the unmet parking demand generated by the project.

[NOTE: FOR PROJECTS IN C-3 DISTRICTS USE THE FOLLOWING PARAGRAPH. SEE BELOW FOR LANGUAGE FOR PROJECTS IN SOMA AND MISSION BAY.]

The proposed project is in the C - 3 District, in which parking is not required for commercial uses. The City Planning Code allows accessory parking up to seven percent of the gross floor area of the project. The _____ gross square feet of parking proposed by the project sponsor [would be within] [would exceed] this seven percent allowance (___ total project GSF x 0.07 = ___ GSF allowed for accessory parking).* The proposed project would allocate at least ___ spaces for public short term parking, and at least ___ spaces for carpools and vanpools. Parking provided in the proposed project for public use would be subject to a rate structure (City Planning Code Section 155(g)) which encourages short term use and discourages all day parking.

[NOTE: FOR PROJECTS IN SOMA AND MISSION BAY USE THE FOLLOWING PARAGRAPH AS A SUBSTITUTE FO THE PARAGRAPH ABOVE.]

The proposed project is in the ___ District, in which parking is required for commercial uses. The City Planning Cod requires accessory parking in the amount of _ spaces per _ floor area of *[type of use]* for the project, and allow up to 150% of this requirement as accessory parking. The project would be required to provide at least ____ parking spaces;____ parking spaces are proposed by the project sponsor. The proposed project would allocate at least ___* spaces for public short term parking, and at least _____** spaces for carpools and vanpools. Parking provided in the proposed project for public use would be subject to a rate structure (City Planning Code Section 155(g)) which encourages short term use and discourages all day parking.

FN1 Using the Department's standard of about 215 gross square feet per vehicle for tandem valet parking in downtown San Francisco, per May 4, 1989 memorandum, Dean L. Macris to City Planning Commission.

FN2 This reflects the actual vehicular capacity of the existing garage(s) and/or lot(s) [indicate which] at any point in time, as currently operated [cite whether self-park, tandem, or both], and not the total number of vehicles or individuals who may use the facility. For long term parking, it is recognized that leasing operations often "oversubscribe" parking facilities, selling more leases than the number of vehicles the facility can accommodate at one time, to take care of non-daily users who still wish a long term lease, and those who are in-and-out during the course of the day. As a result, a greater number of parking leases or users may be displaced than the actual vehicular capacity of the facility.

* If the amount of GSF is above the seven percent accessory allowance, an explanation of how the excess is to be used and applied must be included in this paragraph. If Conditional Use approval is being sought for the additional amount, so state. If replacement short term parking is requested, this language should be modified to note that such replacement parking may be exempt from FAR calculations, and that the Project Sponsor is requesting such an exemption.

** Using the ratios cited in the May 4, 1989 memo for minimum parking allocations to short term and rideshare users, plus replacement parking if applicable.

APPENDIX 5

TYPICAL TRANSPORTATION MITIGATION MEASURES FOR THE DOWNTOWN AREA

In the downtown area, a number of transportation related items are required by law which would serve to mitigate impacts, and are summarized here for informational purposes. They should also be referred to in the Mitigation Section of the EIR, not as mitigation measures specific to the project but rather, as generic mitigation measures applicable in the downtown area.

These measures include: contribution of funds for increased transit service per the Transit Impact Development Fee, Board of Supervisors Ordinance #224-81; when auto parking is provided, provision of off-street bicycle storage pursuant to Section 155 of the City Planning Code; provision of transportation brokerage services to coordinate a transportation management program and participation in a network of transportation brokers pursuant to Section 163 of the City Planning Code; priority use of off-street parking in the project for the physically handicapped, travelers in carpools and vanpools, and short-term trips by business visitors and clients, pursuant to Section 155 of the City Planning Code; and provision of building directories and signs for service elevators in loading areas, pursuant to Section 155 of the City Planning Code. Additional generic measures apply which are not related to mitigation of transportation impacts.

Additional measures which are not required by legislation but which would also serve to mitigate transportation impacts and are generally included in transportation analyses as a policy matter include the following.

Measures that could be implemented by the project sponsor as part of the project:

- The placement of paving, landscaping or structures in the sidewalk area (subject to City approval) would be done in such a way as to minimmize interference with pedestrian traffic.

- Secure bicycle facilities would be provided for project commuters and short-term visitors which would, at a minimum, provide safe shelter for the number of spaces required in the project.

- While subsurface sidewalk vaults are discouraged, the project sponsor would design subsurface sidewalk vaults to allow for possible future widening of adjacent streets. Vault design shall be of sufficient strength to carry maximum vehicular live and dynamic loads. Design of the vault area to accommodate street trees would also be made, subject to Department of Public Works approval. In addition, should vaults exist or be installed as part of the project, the project sponsor would accommodate and pay for the installation of all subsurface footings, supports and foundations as may be required for future public improvements such as street lights, trolley wire poles, signs, benches, transit shelters, etc. within project vault areas. Placement

of such improvements is entirely within the discretion of the City. Should the City at any future time determine its need for any subsidewalk space occupied by the project, for any reason, the project sponsor agrees to waive all rights of appeal of revocation of permits to occupy such space.

- During the construction period, the project sponsor would cause to limit construction truck movement to the hours between 9:00 A.M. and 3:30 P.M., and to prohibit staging or unloading of equipment and material during the periods of 7:30 A.M. to 9:00 A.M. and 3:30 P.M. to 6:00 P.M., to minimize peak period traffic conflicts and to accommodate queueing of Muni buses prior to the peak hours of service. The project sponsor and construction contractor would meet with the Traffic Engineering Division of the Department of Parking and Traffic, the Fire Department, Muni, and the Department of City Planning to determine feasible traffic management and mitigation measures to reduce traffic congestion during construction of this project and other nearby projects. To minimize cumulative traffic impacts due to lane closures during construction, the project sponsor would coordinate with construction contractors for any concurrent nearby projects that are planned for construction or which later become known.

- The project sponsor would, in cooperation with the Municipal Railway, install eyebolts or make provision for the direct attachment of eyebolts for Muni trolley wires on the proposed building wherever necessary or agree to waive all rights to refuse the attachment of eyebolts to the proposed building if such attachment is done at City expense.

- The parking driveway would include warning devices (lighted signs and noise-emitting devices) to alert pedestrians to vehicles exiting the structure.

Measures that could be implemented by public agencies

- Coordinate work schedules of Pacific Gas and Electric Company and other utilities requiring trenching, so that street disruption would take place during weekends and off-peak hours. This should be done through the San Francisco Committee for Utility Liaison on Construction and Other Projects (CULCOP). In-street utilities should be installed at the same time as the street is opened for construction of the project to minimize street disruption.

- The City could act upon or endorse the implementation of transportation mitigations described in the Mission Bay EIR Vol. II, Section VI.E, Mitigation, pp. VI.E.214- VI.E.217 for the year 2000 and VI.E.224-VI.E.231 for the year 2020, and in the South of Market EIR, pp. 183-184. The measures for the year 2000 include: constructing and maintaining rail rapid transit lines from downtown San Francisco to suburban corridors and major non-downtown centers in San Francisco; increased funding for Vehicle Circulation Plans

for San Francisco and regional transit agencies to expand existing non-rail transit service; providing exclusive transit lanes on City streets and on freeways; reducing incentives to drive by discouraging long-term parking; encouraging carpools, vanpools and bicycle use; improving pedestrian circulation within downtown San Francisco; and providing transportation brokerage services. The Mission Bay EIR describes various types of measures to illustrate the magnitude of improvements needed to mitigate the impacts of regional growth in 2020.

Some of the implementing actions would require approval by decision-makers outside the City and County of San Francisco; many of the measures would require action by City agencies other than the City Planning Commission, such as the San Francisco Public Utilities Commission and/or Board of Supervisors. All except such things as providing transportation brokers would require funding from or approval by MTC. These measures are system-wide measures that must be implemented by public agencies. Other than project-specific measures such as the relevant transportation mitigation measures described above as part of the project or such measures as the Transit Impact Development Fee assessment by San Francisco Ordinance 224-81 which would contribute directly to implementation of these system-wide measures, it is not appropriate to impose mitigation at system-wide levels on individual projects.

APPENDIX 7

Freight Delivery and Service Vehicle Demand

Peak Hour* Generation

$$\text{Number of Spaces per 1,000 GSF} = \frac{\frac{(R) \times 1.25}{9}}{2.4}$$

Average Hour Generation

$$\text{Number of Spaces per 1,000 GSF} = (R) \div 9 \div 2.4$$

$$\text{Daily Truck Trip Generation Per Use} = \frac{GSF}{1,000} \times (R)$$

Where:

R	=	Daily truck trip generation per 1,000 GSF of use from Table 7.1
1.25	=	Peak Hour deliveries at 25% higher rate than other hours
9	=	Number of hours deliveries are made (8:00A.M.-5:00P.M.)
2.4	=	Assuming average truck delivery/pickup of 25 minutes, 2.4 trucks could be accommodated per hour

*NOTE Peak Hour Truck Trip Generation generally occurs between 10:00A.M. and 1:00P.M., and is unrelated to P.M. Peak Hour used in other transportation analyses.

Table 7.1 Daily Truck Trip Generation Rate per 1,000 Square Feet of Floor Area, by Land Use

Office	.21
Bank	.30
Retail (Composite)	
Wholesale	.22
Apparel	.80
Department Store	.45
Furniture	.24
Restaurant/Bar	3.60
Drug Store	3.70
Specialty Shops	.18
Services	
Hotel	.09
Institution	.10
Business	1.30
Parking	.03
Administration	.40
Warehousing	.46
Manufacturing	.51
Light Industry	.55
Residential	.03

Source: Center City Pedestrian Circulation and Goods Movement Study (Wilbur Smith & Assoc. for San Francisco Department of City Planning). September, 1980

TABLE 7.2 Percent Daily Truck Activity by Vehicle Type

Cars and Pickups	25%
Vans	42%
Small Delivery Trucks[1] 2 axles	5%
Large Delivery Trucks[2] 2 axles	19%
Large Delivery Trucks[2] 3 axles	4%
Tractor - Trailer 4 axles	1%

[1] Characterized as a small courier, U.S. Mail truck or step van

[2] Characterized as a mid-size Hertz rental truck, beverage truck or small furniture truck

[3] Characterized as a garbage truck

Source: DKS Associates, 1990

APPENDIX B

City and County of San Francisco
Department of City Planning

450 McAllister Street
San Francisco, CA 94102

TRANSPORTATION STUDY SCOPE OF WORK
ACKNOWLEDGEMENT AND APPROVAL

Transmittal To: _____ Date: _____

_____

_____

_____

The proposed scope of work for the _____ project,
Case No. _____, dated _____ is hereby

- ☐ Approved as submitted
- ☐ Approved as revised and resubmitted
- ☐ Approved subject to comments below
- ☐ Not approved, pending modifications specified below and resubmitted

Signed: _____ _____

Transportation Section *Office of Environmental Review*

Comments: _____

_____

_____

_____

_____

_____

Note: A copy of this approval and the final scope of work is to be appended to the transportation study. The Department advises consultants and project sponsors that review of the draft transportation report may identify issues or concerns of other City agencies not addressed in the scope of work hereby approved, and that the scope of work may need to be modified to accommodate such additional issues.

SELECTED BIBLIOGRAPHY

Mission Bay FEIR, SF Department of City Planning, 86.505E, Certified August 23, 1990

South of Market FEIR, SF Department of City Planning, 85.463E, Certified October 26, 1989

Van Ness Avenue FEIR, SF Department of City Planning, 87.586E, Certified December 17, 1987

Neighborhood Commercial Rezoning Study FEIR, SF Department of City Planning, 86.816E, Certified July 30, 198

Downtown Plan FEIR, SF Department of City Planning, EE81.3, Certified October 18, 1984

Guidelines for Environmental Review: Transportation Impacts, S.F. Department of City Planning, September 1983

Typical Transportation Work Scope for Neighborhood or Non-Downtown Projects, S.F. Department of City Planning April 1988

"Casual Carpooling in the San Francisco Bay Area," Steve Bercich, Transportation Quarterly, January 1990

Transportation Management Association of San Francisco Employee Transportation Survey, 1990

Trip Generation, 4th Edition, Institute of Transportation Engineers, 1987

Recht Hausrath Associates Survey of Downtown Residents, 1986

Residential Conservation Rezoning Study, S.F. Department of City Planning, 1990

Center City Pedestrian Circulation and Goods Movement Study, Wilbur Smith Associates for the S.F. Department of City Planning, September 1980

Urban Space for Pedestrians, Pushkarev and Zupan, MIT Press, 1975

APPENDIX 3

YEAR 2000 P.M. PEAK HOUR AND P.M. PEAK PERIOD MODAL SHARES FOR OUTBOUND TRAVEL* FROM DOWNTOWN AND VICINITY

	P.M. PEAK HOUR	P.M. PEAK PERIOD
Drive Alone	20%	21%
Rideshare	10%	11%
Muni	24%	23%
BART	24%	23%
AC Transit	7%	7%
SamTrans	1%	1%
CalTrain	2%	2%
Golden Gate Bus	4%	4%
Golden Gate Ferry	1%	1%
Other	7%	7%

* represents both work and nonwork travel, outbound only.

Source: Mission Bay FEIR, Table VI.E.7,
300 Street Howard FEIR (89.589E), background transportation documents

APPENDIX VI

Downtown Transit Impact Development Fee Ordinance

THIS PAGE
INTENTIONALLY LEFT BLANK

FILE NO. [illegible] ORDINANCE NO. 224-84

(TIDF)

AMENDING CHAPTER 38 OF THE SAN FRANCISCO ADMINISTRATIVE CODE BY AMENDING SECTIONS 38.1, 38.2, 38.5 AND 38.8 THEREOF AND BY ADDING SECTION 38.8.5 THERETO RELATING TO THE PRINCIPLES TO BE USED IN CALCULATING THE AMOUNT OF THE TRANSIT IMPACT DEVELOPMENT FEE AND PROVIDING FOR ADJUSTMENT TO THE TRANSIT IMPACT DEVELOPMENT FEE IN CASES OF CONVERSION FROM OTHER USES TO OFFICE USE TO INCORPORATE THE TRIP GENERATION RATE OF PRIOR USE SO AS TO ACCURATELY MEASURE THE INCREMENTAL IMPACT OF THE CONVERSION TO OFFICE USE ON THE SAN FRANCISCO MUNICIPAL RAILWAY.

NOTE: Additions or substitutions are underlined; deletions are indicated by ((double parentheses)).

Be it ordained by the people of the City and County of San Francisco:

Section 1. Sections 38.1, 38.2 and 38.5 of Chapter 38, the San Francisco Administrative Code, are hereby amended to read as follows:

Section 38.1. Definitions.

For the purposes of this chapter, the following definitions shall apply:

(a) BOARD. The Board of Supervisors of the City and County of San Francisco.

(b) CERTIFICATE OF FINAL COMPLETION AND OCCUPANCY shall mean a certificate of final completion and occupancy issued by the Superintendent, Bureau of Building Inspection, pursuant to the Building Code.

(c) CITY. The City and County of San Francisco.

(d) DOWNTOWN AREA. That portion of the City and County bounded by Van Ness Avenue as far north as Broadway, from Van Ness Avenue and Broadway easterly on Broadway to Sansome Street; then northerly on Sansome Street to the Embarcadero; then southeasterly on the Embarcadero to Berry Street; then southwesterly on Berry Street to De Haro Street; then southerly on De Haro Street to Alameda Street; then westerly on Alameda Street to Bryant Street; then northerly on Bryant Street to Thirteenth Street; then westerly on Thirteenth Street to South Van Ness Avenue; then northerly to Van Ness Avenue. The downtown area includes all property with an address on any of or within the area surrounded by the above enumerated boundary streets.

(e) GROSS SQUARE FOOT OF OFFICE USE. A square foot of floor space within a structure, whether or not within a room, to be occupied by, or primarily serving, office use.

(f) NEW DEVELOPMENT. Any new construction, addition, extension, conversion, or enlargement of an existing structure which includes any gross square feet of office use.

(g) OFFICE USE. Any structure or portion thereof intended for occupancy by business entities which will primarily provide clerical, professional or business services of the business entity, or which will primarily provide clerical, professional or business services to other business entities or to the public, at that location.

(h) PEAK PERIOD. The total number of minutes in an average working day, determined in accordance with Section 38.5(a), during which ((the passenger demand on)) the Municipal Railway ((system would require it to deploy)) deploys all its operable equipment so that the system experiences no excess vehicular capacity.

(i) PUBLIC TRANSIT SERVICE. Services of the Municipal Railway of the City and County of San Francisco.

/ / /

virtue of the availability of the Municipal Railway as a means of transit for employees and customers.

The demand for public transit service from downtown area office uses imposes a unique burden on the Municipal Railway, qualitatively different than the burden imposed by other uses of property in San Francisco. The need for that level of service provided by the Municipal Railway during peak periods can be attributed in substantial part to office uses of property in the downtown area.

New developments will bring increased need for public transit service in the downtown area during peak periods. The Municipal Railway will be burdened with the demands of transporting a larger number of passengers. Future increases in demand for public transit service are therefore attributable directly to new development in the downtown area increasing the number of persons using the Municipal Railway during peak periods.

This increased demand must be met not only by the acquisition of new rolling stock and the addition of new services, but also by the employment of additional personnel and fuel to operate the added facilities, and the maintenance, repair and replacement of the additional facilities as they wear out or become obsolete.

That level of additional cost incurred by the City in expanding and operating, maintaining, repairing and replacing its public transit facilities to accommodate the additional peak-period person-trips generated by office use in new developments can be translated into a cost per gross square foot of office use in the new developments. The cost of expanding

by new development. Development of office uses causes more additional Municipal Railway peak-period person-trips, per square foot, than the development of any other use of property in the downtown area. It is desirable to impose the increased burden of serving such uses, through a fee approximating the cost per square foot, directly upon the developer of new development generating the need.

Even though other uses such as retail use also generate Municipal Railway peak-period person trips (and even if a particular alternate use were to generate more such trips than do office uses), the Board refrains from imposing the Transit Impact Development Fee on such uses at this time, and in that regard finds: (1) The vast majority of new commercial space in the downtown area will be devoted to office uses, and the primary cause for new peak-period Municipal Railway passengers will be the development of new office uses; and (2) a significant proportion of the new retail and service uses which will hereafter be developed in the downtown area will be constructed in connection with new office developments and, for that reason, limitation of the fee to office uses both ameliorates the economic impact of the fee on developers of office space and encourages the development of projects with mixed uses consisting of office, retail and service uses.

Sec. 38.5. Transit Impact Development Fee Schedule.

This Transit Impact Development Fee Schedule is set at an actuarially sound level to insure that the proceeds from the Transit Impact Development Fee from each new development is sufficient, including such earnings as may be derived from

investment of all proceeds and amortization thereof, to pay for all capital and operating costs incurred in providing and operating additional required peak-period public transit service capacity, over the life of such new development, without, however, exceeding five dollars ($5.00) per square foot.

The following principles have been and, in the future, shall be observed in calculating the amount of the fee:

(a) The times during the day which constitute the peak period shall be determined functionally as that period of time during which a decision to add additional scheduled vehicle runs would require Muni to purchase or lease additional vehicles because the existing available fleet is fully committed in the sense that vehicles are actually in revenue service, being held for deployment later in the peak period, in reserve, or scheduled for repair or preventive maintenance.

(b) State, federal and private operating and capital subsidies for the cost of providing additional peak period service shall be assumed only when and to the extent that receipt of such subsidies is reasonably probable.

(c) The calculation of future costs of providing service for additional passengers during the peak periods should assume no increase in the level of crowding for the system as a whole or material decreases in the frequency of service.

(d) The cost of electricity shall be calculated based on the price which the City could receive for such power were it sold to PG&E assigned customers rather than the cost at which it is furnished to the Municipal Railway by the Hetch Hetchy Water and Power Department.

(e) Costs and revenue attributable to trips taken outside the peak periods by office workers and visitors shall not be

included.

(f) In calculating the revenue from additional peak period trips, a weighted average fare (reflecting the frequency of trips paid for by cash fares as opposed to fast passes) shall be estimated. In making this calculation, the average fare for a fast pass trip shall be determined by dividing the cost of a fast pass by an estimate of the total number of trips per month (whether or not taken in the peak period) which will be taken by a fast pass purchaser. In projecting future revenues, peak period revenue shall be assumed to increase at the same rate as peak period operating costs.

(g) Where feasible, actual information for the fiscal year for which the fee is being calculated should be used. Where estimates must be made, those estimates should be based on such information as the General Manager of the Public Utilities Commission or his delegate considers reasonable for the purpose. Possible changes in the operation or productivity of the Municipal Railway shall be taken into account only if such changes are the announced policy of the Municipal Railway or the Public Utilities Commission and the impact of such change on peak period costs or revenues can be estimated with reasonable certainty.

The Transit Impact Fee Schedule shall be as follows:

FOR EACH GROSS SQUARE FOOT OF OFFICE USE IN NEW DEVELOPMENT IN THE DOWNTOWN AREA.	$5.00*

*Formula fee rate calculated (at $9.18)) to be in excess of $5.00; limited to $5.00.

/ / /

Section 38.6. Setting of Fee.

Each developer, prior to obtaining a building permit for any new development in the downtown area after the effective date of this ordinance, shall file with the General Manager of the Public Utilities Commission, on such form as he may develop, a report indicating the number of gross square feet of the new development intended for office use. Each developer of a new development for which a building permit was issued prior to the effective date of this ordinance and for which a final certificate of occupancy had not been issued prior to the effective date of this ordinance shall file the same report prior to obtaining a final certificate of occupancy. The General Manager shall determine the number of gross square feet of office use to which the Transit Impact Development Fee Schedule applies, [crediting the number of gross square feet of office use being eliminated as part of the project and)] disregarding the number of gross square feet of office use being retained, determine the useful life category if the Fee Schedule includes useful life categories, apply the fee schedule, and determine the fee which reflects the additional cost of peak-period public transit service generated by the office use in the new development. The applicant shall be notified of the General Manager's determination in writing. The General Manager shall mail a copy of his determination to the applicant. The applicant may appeal the determination of the number of gross square feet of office use subject to the fee, the adjustment factor described in Section 38.6.5[b], or the useful-life category if the fee schedule includes useful life categories, to the Public Utilities

if the applicant notifies the General Manager of his acceptance of the determination, or does not appeal to the Public Utilities Commission within 15 days of the date of personal service or mailing of notice of the General Manager's determination, the General Manager's determination shall be final, and a notice of such determination shall be provided the Central Permit Bureau. The Central Permit Bureau may not issue a building permit for any new development in the downtown area until it has received notice from the General Manager of the Public Utilities Commission or the Public Utilities Commission of the final determination of the amount of the Transit Impact Development Fee to be paid.

Section 3. Chapter 38 of the San Francisco Administrative Code is hereby amended by adding Section 38.6.5 thereto, reading as follows:

Section 38.6.5. Credits for Prior Use.

In determining the number of gross square feet of office use to which the Transit Impact Development Fee Schedule applies, the General Manager shall provide for the following credits:

a. For prior office uses, there shall be a credit for the number of gross square feet of office use being eliminated as part of the project.

b. For prior uses other than office use, there shall be a credit for the number of gross square feet of non-office use being eliminated multiplied by an adjustment factor to reflect the difference between office building peak period municipal railway trip generation rates and peak period municipal railway trip generation rates for other uses. The adjustment factor shall be determined by the General Manager as follows:

(1) The adjustment factor shall be a fraction, the

trip generation rate which the General Manager shall determine, in consultation with the Department of City Planning applies to the class of prior use being eliminated by the project.

(2) The denominator of the fraction shall be the peak period municipal railway trip generation rate for office use used in the most recent calculation of the Transit Impact Development Fee Schedule approved by the Board of Supervisors.

(3) Notwithstanding the foregoing, the adjustment factor shall not exceed 1.

Section 4. The Board finds and declares that the principles to be employed in calculating the amount of the fee as set forth in Section 1 above are wholly consistent with the Board's intention in enacting the Transit Impact Development Fee Ordinance, with the cost analysis presented to the Board by Bruce Bernhard at the time the ordinance was enacted (which, after correction of certain errors, estimated the loss per square foot to be $6.57, which estimate the Board accepts as reasonable), with the Transit Impact Development Fee Cost Studies for fiscal years 1980-81 and 1981-82 approved by the Board by Resolution 880-81, and with the revised Transit Impact Development Fee Cost Study prepared by Touche Ross & Co. dated February 22, 1984 making certain revisions to the estimation of the FY 1980-81 net present value of the loss which would be incurred in providing additional peak-period transit service (resulting in a net reduction of said loss from $8.60 to $8.16 per square foot). The Board hereby approves the assumptions, methodology and conclusions stated in said revised Transit Impact Development Fee Cost Study. The Board accordingly finds that as of the date the Ordinance was enacted, and at all times thereafter, the net

present value of the loss which would be incurred in providing additional peak period transit service was in excess of $5.00 per square foot.

Section 5. The Board of Supervisors intends that the portion of the amendment to Chapter 38 adding Section 38.8.5 be given full retroactive effect so that the credits allowed by Section 38.8.5 shall be afforded to all developers who have paid the fee or will hereafter be required to do so.

Section 6. The amendments to Chapter 38 set forth in Sections 2 and 3 of this ordinance shall not be effective unless and until, prior to June 25, 1984, the City Attorney has advised the Clerk of the Board that either (1) the Superior Court for the County of San Francisco has entered an order approving a partial settlement of Dunn Building Partnership, et al, v. City and County of San Francisco, No. 780-795, providing that no claims for costs, attorney's fees or expenses may be sought by the class action plaintiff therein on account of the adoption of Section 2 and 3 of this ordinance; or, alternatively, (2) that the Superior Court has determined that no such court order approving such partial settlement is required by law.

APPROVED AS TO FORM:

Deputy City Attorney

0125D

Passed for Second Reading
Board of Supervisors, San Francisco

MAY 7 1984

Ayes: Supervisors Britt, Hongisto, Kennedy, Kopp, Maher, Molinari, ~~Walker~~, Nelder, Silver, ~~Wilson~~, Ward.

Noes: Supervisors NELDER

Absent: Supervisors WALKER

John L. Taylor
Clerk

Read Second Time and Finally Passed
Board of Supervisors, San Francisco

MAY 14 1984

Ayes: Supervisors Britt, Hongisto, Kennedy, Kopp, Maher, Molinari, ~~Walker~~, Nelder, Silver, ~~Wilson~~, Ward.

Noes: Supervisors NELDER

Absent: Supervisors WALKER, WARD

I hereby certify that the foregoing ordinance was finally passed by the Board of Supervisors of the City and County of San Francisco.

John L. Taylor
Clerk

198341
File No.

5/15/84
Approved

Dianne Feinstein
Mayor

APPENDIX VII

San Francisco Trip Reduction Efforts: Relationship to Regional Transportation Control Measures

THIS PAGE
INTENTIONALLY LEFT BLANK

San Francisco Trip Reduction Efforts: Relationship to Regional Transportation Control Measures

TCM	Local Implementation
1. Expand employer assistance programs	The San Francisco transportation management and brokerage program is focusing on the following 3 major activities in FY 97/98: 1) compliance monitoring of buildings required to have a TDM program, 2) development of a rideshare parking brokerage program in the downtown area, and 3) continued implementation of the City and County Employee Commute Assistance Program (CECAP).
4. **Expand new rail starts program.** Tied to implementation of the current rail agreement (MTC's Resolution 1876) which calls for a $3.5 billion program comprising five rail extension projects.	No San Francisco project is included in this list; however, the City has programmed and partially funded several rail extension projects which could become a part of this TCM. These include construction of the F-Line Streetcar in the median of the realigned Embarcadero Roadway, extension of light rail service from the Muni Metro Turnback to 16th Street, and extension of trolley bus lines to Mission Bay and Potrero Hill areas. These and other transit projects are included in the Capital Improvement Program. (See Chapter 8).
5. **Improve access to rail and ferries.** Expand local transit service to regional facilities.	Installation of an Automatic Train Control System will permit more frequent light rail service to the Ferry Building. The MUNI Metro extension to Mission Bay will provide direct light rail service to the Caltrain depot.
6. **Improve inter-city rail service.** Focus of this measure is the establishment of Sacramento-Oakland-San Jose rail service.	While no long-distance service expansion is planned for San Francisco, the City is donating right-of-way for the Peninsula Commute Service and participating in funding for the Joint Powers Board.
7. **Improve ferry service.** Purpose is expansion of ferry service as funding allows. MTC has prepare a long term ferry service plan and will allocate funds under its control consistent with the final recommendations of this plan.	The Port Authority of San Francisco has received funding for expansion of ferry docking facilities at Pier 1/2. Additional ferry terminal expansion projects were included in the 1991 CMP. (See Chapter 8).

TCM	Local Implementation
8. **Construct carpool and express bus lanes on freeways.** The region, in cooperation with Caltrans, has adopted a 2005 HOV master plan which includes 534 lane-miles of HOV lanes compared to the 218 lane-miles at present.	Freeway HOV lanes currently exist on the approaches to the Bay Bridge and Golden Gate Bridge. The first phase of the 2005 HOV Master Plan calls for the creation of an HOV lane on I-280 east of US 101.
9. **Improve bicycle access and facilities.** This TCM proposes an expansion of the carrying capacity of buses, ferries and rail transit; and it encourages employers and developers to proved bicycle access and facilities.	The Department of Parking and Traffic hired a full-time Bicycle Coordinator/Planner. In March 1997, the department adopted a citywide Bicycle Plan which will be used to guide future bicycle improvements and programs.
10. **Youth transportation.** Support programs to reduce youth transit fares, encourage school carpools and purchase clean fuel school buses.	MUNI offers youth fares and youth monthly passes, and conducts public education campaigns in the schools.
11. **Install freeway traffic operations system.** Purpose is to improve flows on freeways by increasing average travel speeds and eliminating major tie ups more quickly.	Implementation of this TCM is being coordinated by Caltrans. The Authority has programmed funds for TOS projects on US 101, US 1, and I-280. (See Chapter 8)
12. **Improve arterial traffic management.** MTC will support existing and expanded signal timing programs and encourage transit signal preemption.	Department of Parking and Traffic has undertaken a long-term project to replace aging signal controllers and install signals with transit preemption capabilities on transit preferential streets. The Authority has prioritized STP/CMAQ funds for signal timing and signal preemption projects by MUNI and the Department of Parking and Traffic. (See Chapter 8).
13. **Transit Use Incentives.** Measure encourages coordination between transit operators on routes, schedules, fares, and payment methods (e.g. passes). Also, suggests fare reductions off-peak.	Implementation of this TCM requires additional funds from regional, state, or federal sources.

TCM	Local Implementation
14. Improve Rideshare/Vanpool Services and Incentives.	The City's TMA activities include both required and voluntary programs for certain employers in the downtown core. These programs include rideshare and vanpool incentives.
15. Local Clean Air Plans, Policies and Programs. This measures encourages localities to incorporate air quality beneficial policies into local planning and development activities that will reduce the number and length of single occupant vehicle trips.	The City's land use and parking regulations, along with the Transit Development Impact Fee, constitute development regulations for the mitigation of new travel demand.
16. Intermittent Control Measure/Public Education. BAAQMD's "Spare the Air" program will be used to encourage the public to reduce motor vehicle use on days of expected ozone exceedances.	Implementation of this TCM is occurring through the BAAQMD and the City's TMA.
17. Conduct demonstration projects. Focus is to promote demonstration projects to develop new strategies to reduce motor vehicle emissions.	San Francisco is responding to this measure within the scope discussed earlier in this Chapter for transportation management initiatives. For example, current projects include the Public Defender's video conferencing project and a bicycle pool for City employees.
18. Implement Revenue Measures. Develop revenue sources (e.g. regional gas tax, continuation of CMAQ) needed to implementation mobility improvements and user incentives.	The Authority is working with MTC through the Bay Area Partnership to identify new revenues sources. The Authority Board passed a resolution supporting SB 877 which would allow implementation of a regional gas tax with the proceeds used to fund transportation projects and activities.
19. Implement market-based pricing measures. A Phase 3 TCM. Full implementation cannot occur until authorizing legislation is passed.	San Francisco currently taxes all paid parking 25%, and the city planning code mandates a rate structure for garages which discourages long-term parking downtown.

APPENDIX VIII

Active Project Delivery Schedule

and

CIP Project Cost/Funding Matrices

Active Project Delivery Schedule (12/22/97)

ID	Sponsor	Project	Env Start	Env End	PS/E Start	PS/E End	ROW Start	ROW End	Con Start	Con End	Op Start	Op End
653	BART	BART A/B Car Rehabilitation							11/1/95	9/1/2004		
663	BART	Advanced Automatic Train Control							7/1/99	7/1/2001		
553	CALTRANS	Seismic Retrofit - 7th to 8th Street Bayshore Viad							1/1/97			
649	CALTRANS	Doyle Drive Traffic Management							7/1/98	9/1/98		
516	CALTRANS	TOS/280-Countyline to 101		2/1/96		5/1/97			7/1/97	4/1/98		
515	CALTRANS	TOS/101-Countyline to I-280		2/1/96		5/1/97			7/1/97	4/1/98		
513	CALTRANS	SR 1/Rt 101 TOS-Traffic Monitor. & Motorist Info							3/1/98	9/1/98		
560	CALTRANS	Planting Required Mitigation, Islais Creek Ave to							1/1/97			
559	CALTRANS	School Noise Attenuation, Philip and Sala Burton H							1/1/99			
558	CALTRANS	HPS V-Lights from Fluorescent at San Jose Ave UC							1/1/99			
557	CALTRANS	Irrigation Upgrade, SM County Line to Route 101							1/1/98			
556	CALTRANS	Rehabilitate Roadway, Broderick Street to Marina V							1/1/99			
554	CALTRANS	Wheelchair Ramps - Routes 101 and 280 at various l							1/1/97			
561	CALTRANS	TSS Earthquake Repair, 4th to Main Street							1/1/97			
552	CALTRANS	Route 101/I Separation							1/1/97			
551	CALTRANS	Wheelchair Ramps - Routes 1, 35, and 80 at various								2/1/98		
650	CALTRANS	Doyle Drive Reconstruction ROW	Reprogrammed in FY 96/97 as Doyle Drive Traffic Management									
550	CALTRANS	Seismic Retrofit - Mission Street to Route 80 Inte							1/1/97			
555	CALTRANS	Earthquake Damage Repair of Central Viaduct, Otis							1/1/99			
604	CCSF	CNG Fueling Facility (Cesar Chavez Street)							6/1/95	9/1/97		

Env=Environmental, PS/E=Preliminary Specifications/Estimates, ROW=Right-of-Way, Con=Construction, Op= Operating

ID	Sponsor	Project	Env Start	Env End	PS/E Start	PS/E End	ROW Start	ROW End	Con Start	Con End	Op Start	Op End
735	CCSF	CNG Vehicle Replacement Program							8/1/97	5/1/98		
734	CECAP/CCSF	HOJ Shuttle Service									7/1/97	6/30/98
736	CECAP/CCSF	Bicycle Parking at City Hall							9/1/98	1/1/99		
620	CECAP/CCSF	Presidio CNG Fueling Facility			9/1/96	2/28/97			3/1/97	6/1/98		
737	CECAP/CCSF	Bicycle Demonstration - Pedal Pool							1/1/98	12/31/98		
738	CECAP/CCSF	Police Bicycle Patrol							3/1/98	6/30/98		
608	DPT	Coit Tower Traffic Signage							12/1/97	4/1/98		
524	DPT	Alemany/Putnam Left Turn Pocket	TIP amendment will be requested by sponsor									
523	DPT	St. Charles Ave. Pathway Rehab. for ADA Transit Ac	12/1/97	3/1/98	4/1/97	8/1/97			3/1/98	6/1/98		
522	DPT	RTSOP-Geary Corridor Signal System Upgrade		1/1/95		9/1/96		6/1/95	9/1/96	4/1/99		
521	DPT	RTSOP-North of Market Signal Upgrades		1/1/95		9/1/96		6/1/95	9/1/96	/30/200		
520	DPT	RTSOP-19th Ave./Park Presidio Signal Project		1/1/95		9/1/96		6/1/95	9/1/96	12/31/98		
715	DPT	Kezar Drive Class I Bikeway							4/1/98	2/1/99		
517	DPT	Lake Merced Bikeway								12/1/98		
617	DPT	S. Van Ness/Otis Traffic Improvement								2/1/96		
716	DPT	Bike Lane Between SFSU & Golden Gate Bridge								2/1/98		
519	DPT	Lincoln Way Signal Interconnect		9/1/95		12/31/97		9/1/95	6/30/98	3/31/99		
525	DPT	Van Ness Ave. Pedestrian Safety Improvements			3/1/97	9/1/97			1/1/98	6/1/98		
616	DPT	Van Ness Responsive Left Turn Lanes							4/1/98	4/1/99		
615	DPT	Congestion Responsive Signal							4/1/98	4/1/99		
542	DPT	Duboce Ave Streetscape/Ped Mall @ Market S. Subway			2/1/97	12/19/97			6/1/98	3/1/99		
622	DPT	Bicycle Parking for City-Owned and Leased Building							1/1/97	12/31/98		

Env=Environmental, PS/E=Preliminary Specifications/Estimates, ROW=Right-of-Way, Con=Construction, Op= Operating

ID	Sponsor	Project	Env Start	Env End	PS/E Start	PS/E End	ROW Start	ROW End	Con Start	Con End	Op Start	Op End
714	DPT	Bike Lane Striping - Various Arterials								11/1/97		
706	DPT	Traffic Signal at Ocean & San Fernando								2/1/98		
732	DPT	Traffic Signal at 18th and Capp							4/8/98	12/1/98		
	DPT	New Signal: Clay/Powell								7/1/96		
713	DPT	Bicycle Commuting Hotline							6/1/96	6/1/97		
712	DPT	Bicycle Locker Project								3/1/98		
708	DPT	Traffic Signal at Mission, Mt. Vernon & Alllison								1/1/98		
707	DPT	Traffic Signal at Irving & 20th Avenue								1/1/98		
705	DPT	Traffic Signal at Mission & Whittier Street								1/1/98		
704	DPT	Traffic Signal at Mission & Foote								1/1/98		
703	DPT	Traffic Signal at Haight & Ashbury								1/1/98		
702	DPT	Traffic Signal at Fulton & 18th Avenue								1/1/98		
539	DPT	Traffic Video Surveillance Demo							8/1/99	6/1/2000		
538	DPT	New Signal: Divisadero/Page								7/1/96		
537	DPT	New Signal: West Portal/Vicente								7/1/96		
535	DPT	New Signal: Alemany Mt. Vernon								7/1/96		
534	DPT	Cesar Chavez (Army) St. Widening	4/1/95	8/1/96	10/1/95	3/1/97			3/1/98	4/1/99		
533	DPT	Bayshore Weaving Ramps	7/1/94	4/1/95	9/1/94	5/1/96			3/1/98	4/1/99		
701	DPT	Traffic Signal Patrol									7/1/95	6/30/96
605	DPT/CCSF	Parking Enforcement Bicycle Program							12/1/94	7/1/97		
601	DPT/CCSF	Van Ness Traffic Signal Timing							4/1/93	12/1/96		
602	DPT/CCSF	Electric Parking Enforcement Vehicle							1/1/93	2/1/94		

ID	Sponsor	Project	Env		PS/E		ROW		Con		Op	
			Start	End	Start	End	Start	End	Start	End	Start	End
528	DPW	Curb Ramp Construction: Various Locations							4/1/98	10/1/98		
618	DPW	CNG Street Sweepers			7/1/97	12/31/97			1/1/98	7/1/98		
526	DPW	Geneva St.: Street Resurfacing, Curb Cuts & Bike L							10/1/98	1/1/99		
527	DPW	California St.:Street Resurfacing							10/1/98	1/1/99		
543	DPW	Mid Embarcadero Promenade Ribbon: Public Art & Str							4/1/98	4/1/99		
529	DPW	Mission Street Lighting From 14th to 24th St.								3/1/97		
666	DPW	King Street Design & Construction							7/1/98	2/1/99		
739	DPW	CNG Street Sweeper			1/1/98	3/31/98			4/1/98	7/1/98		
544	DPW	Downtown SF Pedestrian Sign System			1/1/98	6/1/98			6/1/98	6/1/99		
530	DPW	Sutter St: Street Resurfacing & Bike Lanes							8/1/98	11/1/98		
531	GGT	Ferry Vessel Radar Replacement			7/1/97	10/1/97			1/1/98	7/1/98		
665	GGT	Replacement Ferry	12/1/98	3/1/99					6/1/99	3/1/2001		
655	GGT	Translink/Farebox Replacement							10/1/98	0/1/200		
656	GGT	Automated Bus Scheduling/Operations Data Base							1/1/95			
651	JPB	Caltrain Locomotive Rebuild							2/1/98	9/1/99		
652	JPB	Railcar Rehabilitation							11/1/98	5/1/2000		
662	JPB	Caltrain Centralized Control System & Track Improv			7/1/2003	2/31/200			1/1/2004	6/1/2005		
611	Laguna Honda	LPG Retrofit Program								12/1/97		
660	MTC	MTC Freeway Service Patrol									on-going	
659	MTC	TravInfo								10/1/98		
654	MUNI	Translink							1/1/96			
667	MUNI	Transbay Terminal Replacement Facility	on-going									

Env=Environmental, PS/E=Preliminary Specifications/Estimates, ROW=Right-of-Way, Con=Construction, Op=Operating

ID	Sponsor	Project	Env		PS/E		ROW		Con		Op	
			Start	End	Start	End	Start	End	Start	End	Start	End
664	MUNI	Cable Car System Rehabilitation			3/1/97	12/31/97			8/1/98	3/1/99		
658	MUNI	Bus Stop Improvements			10/6/97	2/1/98			6/1/98	11/1/98		
744	MUNI	Bicycle Racks on MUNI							3/1/97	5/1/97		
740	NPS	Presidio Shuttle Service									1/1/98	1/1/99
518	PORT	Rehab. of track, ballast & drain systems in Tunnel		12/1/95		2/1/95		12/1/95	12/1/95	5/1/96		
532	PORT	Breakwater Construction South of Pier 2				6/1/97			6/1/98	9/1/99		
609	Public Defend	Teleconferencing							12/1/94	8/1/95		
606	SF General Ho	Ridematching Service							12/1/94	6/1/96		
741	SFO	Millbrae Caltrain - SFO Shuttle									7/1/97	6/30/98
742	SFO	CNG Vehicle Replacement Program							11/1/97	6/1/98		
717	SFO	SFO - Caltrain Shuttle Project									7/1/93	6/30/94
607	SFSU	Electric Shuttle Service							12/1/94	5/1/95		
613	SFSU	Bike to School Program							11/1/97	2/1/98		
718	UCSF	UCSF Shuttle - 24th St. BART/SF General Hospital									7/1/95	6/30/96

Env=Environmental, PS/E=Preliminary Specifications/Estimates, ROW=Right-of-Way, Con=Construction, Op= Operating

Sponsor	Project	Page
BART	BART A/B Car Rehabilitation	VIII - 1
CALTRANS	Planting Required Mitigation, Islais Creek Ave to	VIII - 2
CALTRANS	Seismic Retrofit - Mission Street to Route 80 Inte	VIII - 3
CALTRANS	Wheelchair Ramps - Routes 1, 35, and 80 at various	VIII - 4
CALTRANS	Rehabilitate Roadway, Broderick Street to Marina V	VIII - 5
CALTRANS	Earthquake Damage Repair of Central Viaduct, Otis	VIII - 6
CALTRANS	TSS Earthquake Repair, 4th to Main Street	VIII - 7
CALTRANS	HPS V-Lights from Fluorescent at San Jose Ave UC	VIII - 8
CALTRANS	Irrigation Upgrade, SM County Line to Route 101	VIII - 9
CALTRANS	School Noise Attenuation, Philip and Sala Burton H	VIII - 10
CALTRANS	Doyle Drive Traffic Management	VIII - 11
CALTRANS	Rt 101 TOS-Traffic Monitor. & Motorist Info in SF	VIII - 12
CALTRANS	TOS/101-Countyline to I-280	VIII - 13
CALTRANS	Route 101/1 Separation	VIII - 14
CALTRANS	TOS/280-Countyline to 101	VIII - 15
CALTRANS	Wheelchair Ramps - Routes 101 and 280 at various I	VIII - 16
CALTRANS	Seismic Retrofit - 7th to 8th Street Bayshore Viad	VIII - 17
CCSF	CNG Vehicle Replacement Program	VIII - 18
CCSF	CNG Fueling Facility (Cesar Chavez Street)	VIII - 19
CECAP/CCSF	Bicycle Parking at City Hall	VIII - 20
CECAP/CCSF	Bicycle Demonstration - Pedal Pool	VIII - 21
CECAP/CCSF	HOJ Shuttle Service	VIII - 22
CECAP/CCSF	Police Bicycle Patrol	VIII - 23
CECAP/CCSF	Presidio CNG Fueling Facility	VIII - 24
DCP	Transportation Management Assoc. Program	VIII - 25
DCP	Transit Preferential Streets - Planning	VIII - 26
DCP	Pedestrian Connections & Transit Access	VIII - 27
DCP	Downtown Ped. Proj. - Planning	VIII - 28
DCP	Transportation Brokerage Program	VIII - 29
DPT	S. Van Ness/Otis Traffic Improvement	VIII - 30
DPT	Van Ness Responsive Left Turn Lanes	VIII - 31
DPT	Congestion Responsive Signal	VIII - 32
DPT	Bike Lane Striping - Various Arterials	VIII - 33
DPT	Third Street Median Island	VIII - 34
DPT	Duboce Ave Streetscape/Ped Mall @ Market S. Subway	VIII - 35
DPT	Hunters Point Industrial Connector	VIII - 36
DPT	Coit Tower Traffic Signage	VIII - 37
DPT	Potrero Avenue	VIII - 38
DPT	Street Name Signs	VIII - 39
DPT	Bicycle Parking for City-Owned and Leased Building	VIII - 40
DPT	Lake Merced Bikeway	VIII - 41
DPT	Signal Upgrading	VIII - 42
DPT	Ceasar Chevaz Street (Army St)	VIII - 43
DPT	Traffic Engineering Equip.	VIII - 44
DPT	Traffic Control Systems	VIII - 45
DPT	New Traffic Signals	VIII - 46
DPT	Traffic Signal at Mission & Whittier Street	VIII - 47
DPT	Traffic Signal at Fulton & 18th Avenue	VIII - 48
DPT	Traffic Signal at Haight & Ashbury	VIII - 49
DPT	Traffic Signal at Mission & Foote	VIII - 50

DPT	Traffic Signal at Ocean & San Fernando	VIII - 51
DPT	Traffic Signal at Irving & 20th Avenue	VIII - 52
DPT	New Signal: Alemany Mt. Vernon	VIII - 53
DPT	Traffic Signal at 18th and Capp	VIII - 54
DPT	Raised Reflective Lane Markers	VIII - 55
DPT	Candlestick Park Short-Range Traffic Impr.	VIII - 56
DPT	Bicycle Locker Project	VIII - 57
DPT	New Signal: Divisadero/Page	VIII - 58
DPT	Traffic Video Surveillance Demo	VIII - 59
DPT	Traffic Signal Patrol	VIII - 60
DPT	T. P.S. - 450 Parking Meters (DPT)	VIII - 61
DPT	Cesar Chavez (Army) St. Widening	VIII - 62
DPT	T. P.S. Bus Lane Sign &Restriping.- (DPT)	VIII - 63
DPT	New Signal: West Portal/Vicente	VIII - 64
DPT	Traffic Signal at Mission, Mt. Vernon & Allison	VIII - 65
DPT	St. Charles Ave. Pathway Rehab. for ADA Transit Ac	VIII - 66
DPT	Kezar Drive Class I Bikeway	VIII - 67
DPT	Lincoln Way Signal Interconnect	VIII - 68
DPT	RTSOP-19th Ave./Park Presidio Signal Project	VIII - 69
DPT	RTSOP-North of Market Signal Upgrades	VIII - 70
DPT	RTSOP-Geary Corridor Signal System Upgrade	VIII - 71
DPT	Bicycle Commuting Hotline	VIII - 72
DPT	Bicycle, Ped., Elderly, & Disabled Access. - "Spot	VIII - 73
DPT	Bicycle, Ped., Elderly, & Disabled Access. - Bicyc	VIII - 74
DPT	Alemany/Putnam Left Turn Pocket	VIII - 75
DPT	Van Ness Ave. Pedestrian Safety Improvements	VIII - 76
DPT	Bayshore Weaving Ramp	VIII - 77
DPT	Bike Lane Between SFSU & Golden Gate Bridge	VIII - 78
DPT	Sterling St. HOV Lanes	VIII - 79
DPT/CCSF	Van Ness Traffic Signal Timing	VIII - 80
DPT/CCSF	Electric Parking Enforcement Vehicle	VIII - 81
DPT/CCSF	Parking Enforcement Bicycle Program	VIII - 82
DPW	Sutter St: Street Resurfacing & Bike Lanes	VIII - 83
DPW	California St.:Street Resurfacing	VIII - 84
DPW	Downtown SF Pedestrian Sign System	VIII - 85
DPW	Curb Ramp Construction: Various Locations	VIII - 86
DPW	Mission Street Lighting From 14th to 24th St.	VIII - 87
DPW	Geneva St.: Street Resurfacing, Curb Cuts & Bike L	VIII - 88
DPW	Street Repair & Cleaning Equip.	VIII - 89
DPW	Mid Embarcadero Promenade Ribbon: Public Art & Str	VIII - 90
DPW	Bicycle, Ped., Elderly, & Disabled Access. - Curb	VIII - 91
DPW	CNG Street Sweeper	VIII - 92
DPW	Bicycle, Ped., Elderly, & Disabled Access. - Unide	VIII - 93
DPW	Pedestrian Access Improvements	VIII - 94
DPW	Downtown Ped. Proj. - Fourth St. Widening	VIII - 95
DPW	Bicycle, Ped., Elderly, & Disabled Access. - Pembe	VIII - 96
DPW	TPS- Unidentified Projects	VIII - 97
DPW	CNG Street Sweepers	VIII - 98
DPW	T. P.S. Bus Lane Sign &Restriping.- (DPW)	VIII - 99
DPW	Transit P.S. - Castro St. Bus Bulb (DPW)	VIII - 100
DPW	Planting & Maint. of Additional Trees	VIII - 101

MUNI	Paratransit	VIII - 153
MUNI	Ext. to Muni Rte. 14 to Daly City	VIII - 154
MUNI	Reserve Fleet	VIII - 155
MUNI	Vehicles - 3rd St./Mission Bay LRVS	VIII - 156
MUNI	Data Processing/Office Equip.	VIII - 157
MUNI	Geary Blvd Study	VIII - 158
MUNI	Bayshore Corridor EIS	VIII - 159
MUNI	Vehicle Parts & Equip.	VIII - 160
MUNI	Ferry Terminal Expansion	VIII - 161
MUNI	Trolley Coach Electrification	VIII - 162
MUNI	Mission Bay Trolley Rerouting/Ext.	VIII - 163
MUNI	Geneva Modifications	VIII - 164
MUNI	Metro East LRV Facility	VIII - 165
MUNI	Presidio Facilities Redevel.	VIII - 166
MUNI	Bayshore Corridor Study	VIII - 167
MUNI	Wayside Fare Collection Equip.	VIII - 168
MUNI	Motor Coach Purchase	VIII - 169
MUNI	Trolley Coach Purchase - Phase 2	VIII - 170
MUNI	Historic Rail Car Modifications	VIII - 171
MUNI	Fleet Plan	VIII - 172
MUNI	Trolley Coach Purchase - Phase2/3	VIII - 173
MUNI	Trolley Coach Purchase - Phase 1	VIII - 174
MUNI	Facilities Master Plan	VIII - 175
MUNI	MAN Motor Coach Reh. (100)	VIII - 176
NPS	Presidio Shuttle Service	VIII - 177
PORT	Breakwater Construction South of Pier 2	VIII - 178
PORT	Rehab. of track, ballast & drain systems in Tunnel	VIII - 179
Public Defender	Teleconferencing	VIII - 180
SF General Hospital	Ridematching Service	VIII - 181
SFCTA	Countywide Transportation Plan	VIII - 182
SFO	Millbrae Caltrain - SFO Shuttle	VIII - 183
SFO	CNG Vehicle Replacement Program	VIII - 184
SFO	SFO - Caltrain Shuttle Project	VIII - 185
SFSU	Electric Shuttle Service	VIII - 186
SFSU	Bike to School Program	VIII - 187
UCSF	UCSF Shuttle - 24th St. BART/SF General Hospital	VIII - 188
BART	Advanced Automatic Train Control	VIII - 189
DPW	King Street Design & Construction	VIII - 190
GGT	Ferry Replacement	VIII - 191
JPB	Caltrain Centralized Control System & Track Improv	VIII - 192
MUNI	Central Control Replacement	VIII - 193
MUNI	Track Replacement	VIII - 194
MUNI	Capital Construction Fund	VIII - 195
MUNI	Islais Creek O&M Facilities	VIII - 196
MUNI	Cable Car Reconstruction (10)	VIII - 197
MUNI	Trolley Overhead Rehab.	VIII - 198
MUNI	Facilities Preservation Projects	VIII - 199
MUNI	Woods O&M Facilities	VIII - 200
MUNI	TPS- Bus Stop Treatments	VIII - 201
MUNI	Cable Car System Rehabilitation	VIII - 202

DPW	Planting & Maint. of Existing Trees	VIII - 102
DPW	Street Resurfacing	VIII - 103
DPW	Bernal Heights St. System Upgrading	VIII - 104
DPW	19th & Holloway Safety Imp. (A&B)	VIII - 105
DPW	Embarcadero Roadway	VIII - 106
DPW	Sidewalk Repair	VIII - 107
DPW	Railroad Track Removal/Repair	VIII - 108
DPW	Seismic Reinforcement	VIII - 109
DPW	Undergrnd Crossover Drive thr. Golden Gate Park	VIII - 110
GGT	Automated Bus Scheduling/Operations Data Base	VIII - 111
GGT	Ferry Vessel Radar Replacement	VIII - 112
GGT	Translink/Farebox Replacement	VIII - 113
JPB	Railcar Rehabilitation	VIII - 114
JPB	Caltrain Locomotive Rebuild	VIII - 115
Laguna Honda Hospital	LPG Retrofit Program	VIII - 116
MTC	Regional Traffic Signalization & Operations Progra	VIII - 117
MTC	Traffic Engineering Technical Assistance Program (	VIII - 118
MUNI	Mission Bay Metro Ext.	VIII - 119
MUNI	M,A, - Boarding Platform Church & 18th	VIII - 120
MUNI	Revenue Center Replacement	VIII - 121
MUNI	Translink	VIII - 122
MUNI	Bus Stop Improvements	VIII - 123
MUNI	Muni Metro Turnback	VIII - 124
MUNI	Metro Subway Signal System (ATCS)	VIII - 125
MUNI	MMX - Embarcadero to MMX	VIII - 126
MUNI	F-Line Streetcar - Market St.	VIII - 127
MUNI	F-Line - Fishermans PCC Renovation	VIII - 128
MUNI	F-Line Streetcar - Embarcadero	VIII - 129
MUNI	LRV Modifications (76)	VIII - 130
MUNI	Muni Metro Extension Seg. 1 & 2	VIII - 131
MUNI	Potrero Division Rehab.	VIII - 132
MUNI	19th Avenue Platforms	VIII - 133
MUNI	Rail Corridor Proj. Manag.	VIII - 134
MUNI	Metro Accessibility Improvements	VIII - 135
MUNI	Environmental Health & Safety Imp.	VIII - 136
MUNI	Green & Geneva Modifications	VIII - 137
MUNI	1401 Bryant Street Rehab.	VIII - 138
MUNI	Fixed Facilities Rehab.	VIII - 139
MUNI	Graffitti Prevention	VIII - 140
MUNI	Operating Restrooms	VIII - 141
MUNI	TPS - Signal Pre-emption	VIII - 142
MUNI	24th & Utah Rep. (700 Pennsylvania)	VIII - 143
MUNI	Financial Capacity Study	VIII - 144
MUNI	Maintenance and Repair Equipment	VIII - 145
MUNI	Capital Staffing Position	VIII - 146
MUNI	LRV Purchase (136)	VIII - 147
MUNI	14-Mission Reconstruction -Phase 1	VIII - 148
MUNI	Facilities, Trolley Reconstruction	VIII - 149
MUNI	Facilities, Track Replacement	VIII - 150
MUNI	Bicycle Racks on MUNI	VIII - 151
MUNI	Transbay Terminal Replacement Facility	VIII - 152

COST FUNDING MATRIX

Sponsor: BART

Project: BART A/B Car Rehabilitation

Cost/Funding Item	FY Previous	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	Totals
COST								
Design	2,389,700	1,058,300	1,151,000	1,398,900	1,398,900	466,300	344,600	8,207,700
Construction	55,837,800	21,555,600	71,999,500	88,732,400	88,071,000	88,869,100	20,691,000	435,756,400
Contingency	0	1,794,100	1,794,100	1,794,100	1,794,100	1,794,100	1,465,400	10,435,900
Totals:	58,227,500	24,408,000	74,944,600	91,925,400	91,264,000	91,129,500	22,501,000	454,400,000
FUNDING								
Section 3	80,781,900	38,820,400	24,046,800	19,165,200	24,046,800	33,412,000	19,199,400	239,472,500
Surface Transportation (STP) Regional	0	5,000,000	0	5,000,000	5,000,000	0	0	15,000,000
Congestion Management/Air Quality (CMAQ)	15,000,000	0	0	0	0	0	0	15,000,000
Prop 108	15,000,000	0	0	0	0	0	0	15,000,000
Transit Capital Improvement (TCI)	1,973,600	0	0	0	0	0	0	1,973,600
Regional Measure One	12,000,000	4,000,000	4,000,000	4,000,000	0	0	0	24,000,000
Other Local	8,890,800	0	83,716,800	0	51,346,300	0	0	143,953,900
Totals:	133,646,300	47,820,400	111,763,600	28,165,200	80,393,100	33,412,000	19,199,400	454,400,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: Planting Required Mitigation, Islais Creek Ave to

Cost/Funding Item	FY 1996/97	Totals
COST		
Construction	250,000	250,000
Totals:	250,000	250,000
FUNDING		
State Highway Operation & Protection Prgrm (	250,000	250,000
Totals:	250,000	250,000

COST FUNDING MATRIX

Sponsor: CALTRANS

Project: Seismic Retrofit - Mission Street to Route 80 Inte

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	35,140,000	35,140,000
Totals:	35,140,000	35,140,000
FUNDING		
State Highway Operation & Protection Prgrm (	35,140,000	35,140,000
Totals:	35,140,000	35,140,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: Wheelchair Ramps - Routes 1, 35, and 80 at various

Cost/Funding Item	FY 1995/96	Totals
COST		
ROW Acquisition	150,000	150,000
Construction	576,000	576,000
Totals:	726,000	726,000
FUNDING		
State Highway Operation & Protection Prgrm (	726,000	726,000
Totals:	726,000	726,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: Rehabilitate Roadway, Broderick Street to Marina V

Cost/Funding Item	FY 1998/99	Totals
COST		
Construction	656,000	656,000
Totals:	656,000	656,000
FUNDING		
State Highway Operation & Protection Prgrm (	656,000	656,000
Totals:	656,000	656,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: Earthquake Damage Repair of Central Viaduct, Otis

Cost/Funding Item	FY 1998/99	Totals	
COST			
Design	15,600,000	15,600,000	
ROW Acquisition	2,000,000	2,000,000	
Construction	50,000,000	50,000,000	
Totals:	67,600,000	67,600,000	
FUNDING			
Emergency Relief (ER)	17,500,000	17,500,000	
State Highway Operation & Protection Prgrm (	43,600,000	43,600,000	
Other Local	5,800,000	5,800,000	(Land Sales Revenues)
Totals:	66,900,000	66,900,000	

COST FUNDING MATRIX

Sponsor: CALTRANS Project: TSS Earthquake Repair, 4th to Main Street

ost/Funding Item	FY 1997/98	Totals
)ST		
'OW Acquisition	1,282,000	1,282,000
onstruction	88,900,000	88,900,000
otals:	90,182,000	90,182,000
'NDING		
ransit Capital Improvement (TCI)	90,182,000	90,182,000
otals:	90,182,000	90,182,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: HPS V-Lights from Fluorescent at San Jose Ave UC

Cost/Funding Item	FY 1998/99	Totals
COST		
Construction	492,000	492,000
Totals:	492,000	492,000
FUNDING		
State Highway Operation & Protection Prgrm (	492,000	492,000
Totals:	492,000	492,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: Irrigation Upgrade, SM County Line to Route 101

ost/Funding Item	FY 1997/98	Totals
'ST		
'onstruction	1,397,000	1,397,000
otals:	1,397,000	1,397,000
'NDING		
tate Highway Operation & Protection Prgrm (	1,397,000	1,397,000
otals:	1,397,000	1,397,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: School Noise Attenuation, Philip and Sala Burton II

Cost/Funding Item	FY 1998/99	Totals
COST		
Construction	1,007,000	1,007,000
Totals:	1,007,000	1,007,000
FUNDING		
State Highway Operation & Protection Prgrm (	1,007,000	1,007,000
Totals:	1,007,000	1,007,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: Doyle Drive Traffic Management

Cost/Funding Item	FY 1996/97	Totals
COST		
Design	443,000	443,000
Construction	1,625,000	1,625,000
Totals:	2,068,000	2,068,000
FUNDING		
Surface Transportation (STP) Regional	1,830,000	1,830,000
Traffic System Management (TSM)	238,000	238,000
Totals:	2,068,000	2,068,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: SR1/Rt 101 TOS-Traffic Monitor. & Motorist Info in

Cost/Funding Item	FY 1997/98	Totals
COST		
Construction	750,000	750,000
Totals:	**750,000**	**750,000**
FUNDING		
Traffic System Management (TSM)	750,000	750,000
Totals:	750,000	750,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: TOS/101-Countyline to I-280

Cost/Funding Item	FY 1994/95	FY 1995/96	Totals
OST			
Construction	102,000	423,000	525,000
Totals:	102,000	423,000	525,000
UNDING			
Congestion Management/Air Quality (CMAQ)	42,000	423,000	465,000
Traffic System Management (TSM)	60,000	0	60,000
Totals:	102,000	423,000	525,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: Route 101/I Separation

Cost/Funding Item	FY 1996/97	Totals
COST		
Construction	100,000	100,000
Totals:	100,000	100,000
FUNDING		
State Highway Operation & Protection Prgrm (	100,000	100,000
Totals:	100,000	100,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: TOS/280-Countyline to 101

Cost/Funding Item	FY 1994/95	Totals
COST		
Construction	723,000	723,000
Totals:	723,000	723,000
FUNDING		
Congestion Management/Air Quality (CMAQ)	640,000	640,000
Traffic System Management (TSM)	83,000	83,000
Totals:	723,000	723,000

COST FUNDING MATRIX

Sponsor: CALTRANS Project: Wheelchair Ramps - Routes 101 and 280 at various l

Cost/Funding Item	FY 1996/97	Totals
COST		
ROW Acquisition	100,000	100,000
Construction	920,000	920,000
Totals:	1,020,000	1,020,000
FUNDING		
State Highway Operation & Protection Prgrm (	1,020,000	1,020,000
Totals:	1,020,000	1,020,000

Sponsor: CALTRANS Project: Seismic Retrofit - 7th to 8th Street Bayshore Viad

Cost/Funding Item	FY 1996/97	Totals
OST		
ROW Acquisition	2,000,000	2,000,000
Construction	37,838,000	37,838,000
Totals:	39,838,000	39,838,000
UNDING		
State Highway Operation & Protection Prgrm (	39,838,000	39,838,000
Totals:	39,838,000	39,838,000

COST FUNDING MATRIX

Sponsor: CCSF

Project: CNG Vehicle Replacement Program

Cost/Funding Item	FY 1992/93	FY 1994/95	FY 1995/96	FY 1996/97	FY 1997/98	Totals
COST						
Equipment	100,000	469,988	260,000	835,710	532,000	2,197,698
Totals:	100,000	469,988	260,000	835,710	532,000	2,197,698
FUNDING						
AB434	100,000	179,650	260,000	280,000	245,000	1,064,650
AB434-Regional	0	290,338	0	555,710	287,000	1,133,048
Totals:	100,000	469,988	260,000	835,710	532,000	2,197,698

COST FUNDING MATRIX

Sponsor: CCSF

Project: CNG Fueling Facility (Cesar Chavez Street)

ost/Funding Item	FY 1993/94	Totals
)ST		
nvironmental	25,000	25,000
esign	100,000	100,000
onstruction	368,000	368,000
otals:	493,000	493,000
NDING		
B434	493,000	493,000
otals:	493,000	493,000

COST FUNDING MATRIX

Sponsor: CECAP/CCSF Project: Bicycle Parking at City Hall

Cost/Funding Item	FY 1997/98	Totals
COST		
Construction	24,000	24,000
Totals:	24,000	24,000
FUNDING		
AB434	24,000	24,000
Totals:	24,000	24,000

Sponsor: CECAP/CCSF Project: Bicycle Demonstration - Pedal Pool

Cost/Funding Item	FY 1997/98	Totals
OST		
Equipment	39,000	39,000
Totals:	39,000	39,000
UNDING		
VB434	39,000	39,000
Totals:	39,000	39,000

COST FUNDING MATRIX

Sponsor: CECAP/CCSF Project: HOJ Shuttle Service

Cost/Funding Item	FY 1992/93	FY 1995/96	FY 1996/97	FY 1997/98	Totals
COST					
Equipment	20,000	0	0	0	20,000
Operating	18,500	26,080	37,100	43,000	124,680
Totals:	38,500	26,080	37,100	43,000	144,680
FUNDING					
AB434	38,500	26,080	37,100	43,000	144,680
Totals:	38,500	26,080	37,100	43,000	144,680

Sponsor: CECAP/CCSF Project: Police Bicycle Patrol

Cost/Funding Item	FY 1997/98	Totals
COST		
Equipment	100,000	100,000
Totals:	100,000	100,000
FUNDING		
AB434	100,000	100,000
Totals:	100,000	100,000

COST FUNDING MATRIX

Sponsor: CECAP/CCSF Project: Presidio CNG Fueling Facility

Cost/Funding Item	FY 1996/97	Totals
COST		
Design	25,000	25,000
Equipment	66,300	66,300
Construction	75,000	75,000
Totals:	166,300	166,300
FUNDING		
AB434	66,300	66,300
Other Local	100,000	100,000
Totals:	166,300	166,300

DCP	Transportation Management Assoc. Program							
Cost/Funding Item	FY Previous	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
COST								
Planning	852,047	101,000	102,000	103,000	104,000	105,000	0	1,367,047
Construction	589,300	100,882	102,954	105,015	107,066	108,000	0	1,113,217
Totals:	1,441,347	201,882	204,954	208,015	211,066	213,000	0	2,480,264
FUNDING								
STA	45,000	0	0	0	0	0	0	45,000
Proposition B	1,652,893	302,904	311,991	321,351	330,991	340,921	351,149	3,612,200
Totals:	1,697,893	302,904	311,991	321,351	330,991	340,921	351,149	3,657,200

Cost Funding Matrix

DCP

Transit Preferential Streets - Planning

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	Totals
COST						
Planning	693,223	36,700	38,000	39,000	40,000	846,923
Totals:	693,223	36,700	38,000	39,000	40,000	846,923
FUNDING						
Proposition B	858,460	53,000	54,000	55,000	56,000	1,076,460
Totals:	858,460	53,000	54,000	55,000	56,000	1,076,460

DCP

Pedestrian Connections & Transit Access

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Design	79,100	0	79,100
Totals:	79,100	0	79,100
FUNDING			
Proposition B	79,100	0	79,100
Totals:	79,100	0	79,100

Cost Funding Matrix

DCP

Downtown Ped. Proj. - Planning

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	Totals
COST						
Planning	653,596	48,400	49,300	50,250	51,200	852,746
Construction	26,500	0	0	0	0	26,500
Totals:	680,096	48,400	49,300	50,250	51,200	879,246
FUNDING						
Proposition B	688,210	48,400	49,300	50,250	51,200	887,360
Totals:	688,210	48,400	49,300	50,250	51,200	887,360

DCP

Transportation Brokerage Program

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Planning	589,215	96,800	100,000	101,000	102,000	103,000	104,000	1,196,015
Construction	450,193	0	0	0	0	0	0	450,193
Totals:	**1,039,408**	**96,800**	**100,000**	**101,000**	**102,000**	**103,000**	**104,000**	**1,646,208**
FUNDING								
AB434	23,295	0	0	0	0	0	0	23,295
Proposition B	1,150,700	251,526	259,072	266,844	274,849	283,095	291,588	2,777,674
Totals:	**1,173,995**	**251,526**	**259,072**	**266,844**	**274,849**	**283,095**	**291,588**	**2,800,969**

COST FUNDING MATRIX

Sponsor: DPT

Project: S. Van Ness/Otis Traffic Improvement

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	17,000	17,000
Totals:	17,000	17,000
FUNDING		
AB434	17,000	17,000
Totals:	17,000	17,000

COST FUNDING MATRIX

Sponsor: DPT

Project: Van Ness Responsive Left Turn Lanes

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	110,000	110,000
Totals:	110,000	110,000
FUNDING		
AB434	110,000	110,000
Totals:	110,000	110,000

COST FUNDING MATRIX

Sponsor: DPT

Project: Congestion Responsive Signal

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	120,000	120,000
Totals:	**120,000**	**120,000**
FUNDING		
AB434	120,000	120,000
Totals:	**120,000**	**120,000**

Sponsor: DPT

Project: Bike Lane Striping - Various Arterials

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	120,000	120,000
Totals:	120,000	120,000
FUNDING		
AB434-Regional	120,000	120,000
Totals:	120,000	120,000

DPT — Third Street Median Island

Cost/Funding Item	FY 1999/00	Totals
FUNDING		
Proposition B	9,325,000	9,325,000
Totals:	9,325,000	9,325,000

Sponsor: DPT Project: Duboce Ave Streetscape/Ped Mall @ Market S. Subway

Cost/Funding Item	FY 1996/97	Totals
COST		
Design	51,568	51,568
Construction	541,464	541,464
Contingency	51,568	51,568
Totals:	644,600	644,600
FUNDING		
Transportation Enhancement (TEA)	394,600	394,600
Other Local	250,000	250,000
Totals:	644,600	644,600

Cost Funding [illegible]

DPT

Hunters Point Industrial Connector

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Construction	0	0	0
Totals:	0	0	0
FUNDING			
Proposition B	0	0	0
Totals:	0	0	0

COST FUNDING MATRIX

Sponsor: DPT Project: Coit Tower Traffic Signage

Cost/Funding Item	FY 1994/95	FY 1997/98	Totals
COST			
Construction	0	152,264	152,264
Totals:	0	152,264	152,264
FUNDING			
AB434	141,500	0	141,500
Other Local	0	10,764	10,764
Totals:	141,500	10,764	152,264

Cost Funding Matrix

DPT

Potrero Avenue

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Construction	0	0	0
Totals:	0	0	0
FUNDING			
Proposition B	0	0	0
Totals:	0	0	0

Cost Funding Matrix

DPT	Street Name Signs		
Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Procurement	1,000,000	0	1,000,000
Totals:	1,000,000	0	1,000,000
FUNDING			
Proposition B	1,000,000	0	1,000,000
Totals:	1,000,000	0	1,000,000

COST FUNDING MATRIX

Sponsor: DPT

Project: Bicycle Parking for City-Owned and Leased Building

Cost/Funding Item	FY 1996/97	Totals
COST		
Construction	139,500	139,500
Totals:	139,500	139,500
FUNDING		
AB434	139,500	139,500
Totals:	139,500	139,500

Sponsor: DPT Project: Lake Merced Bikeway

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	463,000	463,000
Totals:	463,000	463,000
FUNDING		
Surface Transportation (STP) Guarantee	370,000	370,000
Traffic System Management (TSM)	53,000	53,000
Other Local	40,000	40,000
Totals:	463,000	463,000

COST FUNDING MATRIX

Sponsor: DPT Project: Signal Upgrading

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Planning	50,000	0	0	0	0	0	0	50,000
Design	2,057,955	450,000	450,000	450,000	450,000	450,000	450,000	4,757,955
Construction	22,401,045	4,607,000	4,630,000	4,655,000	4,680,000	4,705,000	4,733,000	50,411,045
Totals:	24,509,000	5,057,000	5,080,000	5,105,000	5,130,000	5,155,000	5,183,000	55,219,000
FUNDING								
Surface Transportation (STP) Guarantee	710,000	0	0	0	0	0	0	710,000
Surface Transportation (STP) Regional	744,000	0	0	0	0	0	0	744,000
Congestion Management/Air Quality (CMAQ)	1,673,000	0	0	0	0	0	0	1,673,000
Prop 116	285,000	0	0	0	0	0	0	285,000
State and Local Transportation Partnership Pr	132,000	0	0	0	0	0	0	132,000
TDA Capital	40,000	0	0	0	0	0	0	40,000
Proposition B	18,765,000	6,257,000	6,780,000	5,105,000	5,130,000	5,155,000	5,183,000	52,375,000
Totals:	22,349,000	6,257,000	6,780,000	5,105,000	5,130,000	5,155,000	5,183,000	55,959,000

DPT

Ceasar Chevaz Street (Army St)

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Design	600,000	0	600,000
Construction	13,500,000	0	13,500,000
Totals:	14,100,000	0	14,100,000
FUNDING			
Surface Transportation (STP) Guarantee	14,000,000	0	14,000,000
Proposition B	100,000	0	100,000
Totals:	14,100,000	0	14,100,000

COST FUNDING MATRIX

Sponsor: DPT Project: Traffic Engineering Equip.

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Procurement	515,000	116,000	101,000	75,000	145,000	100,000	100,000	1,152,000
Totals:	**515,000**	**116,000**	**101,000**	**75,000**	**145,000**	**100,000**	**100,000**	**1,152,000**
FUNDING								
Proposition B	515,000	116,000	101,000	75,000	145,000	100,000	100,000	1,152,000
Totals:	**515,000**	**116,000**	**101,000**	**75,000**	**145,000**	**100,000**	**100,000**	**1,152,000**

Cost Funding Matrix

DPT — Traffic Control Systems

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Planning	34,000	68,500	0	0	0	0	0	102,500
Design	350,000	65,000	0	0	0	0	0	415,000
Construction	1,147,000	680,000	50,000	50,000	50,000	50,000	50,000	2,077,000
Totals:	**1,531,000**	**813,500**	**50,000**	**50,000**	**50,000**	**50,000**	**50,000**	**2,594,500**
FUNDING								
Surface Transportation (STP) Guarantee	475,000	0	0	0	0	0	0	475,000
Surface Transportation (STP) Regional	200,000	658,500	0	0	0	0	0	858,500
Hazard Elimination Safety (HES)	387,000	0	0	0	0	0	0	387,000
Regional Improvement Funds (RIF)	0	0	2,500,000	0	0	0	0	2,500,000
Proposition B	469,000	155,000	50,000	50,000	50,000	50,000	50,000	874,000
Totals:	**1,531,000**	**813,500**	**2,550,000**	**50,000**	**50,000**	**50,000**	**50,000**	**5,094,500**

COST FUNDING MATRIX

Sponsor: DPT Project: New Traffic Signals

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals	
COST									
Design	401,000	185,000	50,000	50,000	50,000	50,000	50,000	836,000	
Construction	2,824,000	1,100,000	450,000	450,000	450,000	450,000	450,000	6,174,000	
Contingency	95,800	0	0	0	0	0	0	95,800	
Totals:	3,320,800	1,285,000	500,000	500,000	500,000	500,000	500,000	7,105,800	
FUNDING									
Surface Transportation (STP) Guarantee	372,800	0	0	0	0	0	0	372,800	
Congestion Management/Air Quality (CMAQ)	100,000	0	0	0	0	0	0	100,000	
AB434	780,800	0	0	0	0	0	0	780,800	(1)
Proposition B	2,067,200	1,100,000	500,000	500,000	500,000	500,000	500,000	5,667,200	
Other Local	0	185,000	0	0	0	0	0	185,000	
Totals:	3,320,800	1,285,000	500,000	500,000	500,000	500,000	500,000	7,105,800	

(1) Summarizes Project VIII-47 to VIII-54

Sponsor: DPT

Project: Traffic Signal at Mission & Whittier Street

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	89,000	89,000
Totals:	89,000	89,000
FUNDING		
B434-Regional	89,000	89,000
Totals:	89,000	89,000

Sponsor: DPT Project: Traffic Signal at Fulton & 18th Avenue

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	89,000	89,000
Totals:	89,000	89,000
FUNDING		
AB434-Regional	89,000	89,000
Totals:	89,000	89,000

Sponsor: DPT Project: Traffic Signal at Haight & Ashbury

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	133,500	133,500
Totals:	133,500	133,500
FUNDING		
AB434-Regional	133,500	133,500
Totals:	133,500	133,500

COST FUNDING MATRIX

Sponsor: DPT Project: Traffic Signal at Mission & Foote

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	89,000	89,000
Totals:	89,000	89,000
FUNDING		
AB434-Regional	89,000	89,000
Totals:	89,000	89,000

COST FUNDING MATRIX

Sponsor: DPT Project: Traffic Signal at Ocean & San Fernando

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	89,000	89,000
Totals:	89,000	89,000
UNDING		
AB434-Regional	89,000	89,000
Totals:	89,000	89,000

COST FUNDING MATRIX

Sponsor: DPT Project: Traffic Signal at Irving & 20th Avenue

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	102,300	102,300
Totals:	102,300	102,300
FUNDING		
AB434-Regional	102,300	102,300
Totals:	102,300	102,300

COST FUNDING MATRIX

Sponsor: DPT

Project: New Signal: Alemany Mt. Vernon

Cost/Funding Item	FY 1994/95	Totals
COST		
Construction	110,000	110,000
Totals:	110,000	110,000
UNDING		
Surface Transportation (STP) Regional	80,000	80,000
Traffic System Management (TSM)	13,000	13,000
Prop. B Match	17,000	17,000
Totals:	110,000	110,000

COST FUNDING MATRIX

Sponsor: DPT

Project: Traffic Signal at 18th and Capp

Cost/Funding Item	FY 1996/97	Totals
COST		
Construction	100,000	100,000
Totals:	100,000	100,000
FUNDING		
AB434	100,000	100,000
Totals:	100,000	100,000

Cost/Funding Matrix

DPT — **Raised Reflective Lane Markers**

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
OST								
Construction	270,000	100,000	100,000	100,000	100,000	100,000	100,000	870,000
Totals:	270,000	100,000	100,000	100,000	100,000	100,000	100,000	870,000
UNDING								
Hazard Elimination Safety (HES)	270,000	0	0	0	0	0	0	270,000
Proposition B	100,000	0	100,000	100,000	100,000	100,000	100,000	600,000
Totals:	370,000	0	100,000	100,000	100,000	100,000	100,000	870,000

DPT

Candlestick Park Short-Range Traffic Impr.

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Design	61,500	0	61,500
Procurement	138,500	0	138,500
Construction	800,000	0	800,000
Totals:	1,000,000	0	1,000,000
FUNDING			
Proposition B	1,000,000	0	1,000,000
Totals:	1,000,000	0	1,000,000

COST FUNDING MATRIX

Sponsor: DPT Project: Bicycle Locker Project

Cost/Funding Item	FY 1992/93	FY 1994/95	Totals
COST			
Construction	59,375	87,500	146,875
Totals:	59,375	87,500	146,875
FUNDING			
AB434-Regional	59,375	87,500	146,875
Totals:	59,375	87,500	146,875

COST FUNDING MATRIX

Sponsor: DPT Project: New Signal: Divisadero/Page

Cost/Funding Item	FY 1994/95	Totals
COST		
Construction	101,000	101,000
Totals:	101,000	101,000
FUNDING		
Surface Transportation (STP) Regional	80,000	80,000
Traffic System Management (TSM)	12,000	12,000
Prop. B Match	9,000	9,000
Totals:	101,000	101,000

COST FUNDING MATRIX

Sponsor: DPT Project: Traffic Video Surveillance Demo

Cost/Funding Item	FY 1994/95	Totals
COST		
Construction	144,000	144,000
Totals:	144,000	144,000
UNDING		
Surface Transportation (STP) Regional	120,000	120,000
Traffic System Management (TSM)	17,000	17,000
Other Local	7,000	7,000
Totals:	144,000	144,000

COST FUNDING MATRIX

Sponsor: DPT

Project: Traffic Signal Patrol

Cost/Funding Item	FY 1995/96	Totals
COST		
Operating	97,900	97,900
Totals:	97,900	97,900
FUNDING		
AB434-Regional	97,900	97,900
Totals:	97,900	97,900

T. P.S. - 450 Parking Meters (DPT)

Cost/Funding Item	FY Previous	None	Totals
Cost			
Design	40,000	0	40,000
Totals:	40,000	0	40,000
Funding			
Proposition B	40,000	0	40,000
Totals:	40,000	0	40,000

COST FUNDING MATRIX

Sponsor: DPT

Project: Cesar Chavez (Army) St. Widening

Cost/Funding Item	FY 1992/93	FY 1995/96	FY 1996/97	FY 1997/98	FY 1998/99	Totals
COST						
Planning	0	100,000	316,000	0	0	416,000
Environmental	0	6,200	25,000	0	0	31,200
Design	0	493,800	229,000	0	0	722,800
ROW Acquisition	0	0	0	302,500	0	302,500
Construction	0	0	0	5,291,500	2,636,000	7,927,500
Contingency	0	0	0	300,000	229,000	529,000
Totals:	0	600,000	570,000	5,894,000	2,865,000	9,929,000
FUNDING						
Surface Transportation (STP) Guarantee	500,000	0	0	0	0	500,000
Flexible Congestion Relief (FCR)	0	8,200,000	0	1,129,000	0	9,329,000
Proposition B	100,000	0	0	0	0	100,000
Totals:	600,000	8,200,000	0	1,129,000	0	9,929,000

COST FUNDING MATRIX

Sponsor: DPT Project: T. P.S. Bus Lane Sign &Restriping.- (DPT)

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Environmental	6,303	6,303	8,503	45,456	14,079	14,772	15,467	110,883
ROW Acquisition	31,515	31,515	42,515	227,279	70,397	73,859	77,335	554,415
Construction	182,785	182,785	246,585	1,318,219	408,304	428,383	448,543	3,215,604
Contingency	94,544	94,544	127,544	681,837	211,192	221,578	232,005	1,663,244
Totals:	**315,147**	**315,147**	**425,147**	**2,272,791**	**703,972**	**738,592**	**773,350**	**5,544,146**
FUNDING								
Surface Transportation (STP) Regional	0	1,126,420	0	0	0	0	0	1,126,420
Congestion Management/Air Quality (CMAQ)	837,000	0	0	0	0	0	0	837,000
Transportation Enhancement (TEA)	0	1,000,000	0	0	0	0	0	1,000,000
Traffic System Management (TSM)	108,441	146,371	550,000	580,000	610,000	640,000	670,000	3,304,812
Proposition B	110,000	0	153,973	158,592	163,350	168,250	173,298	927,463
Totals:	**1,055,441**	**2,272,791**	**703,973**	**738,592**	**773,350**	**808,250**	**843,298**	**7,195,695**

COST FUNDING MATRIX

Sponsor: DPT

Project: New Signal: West Portal/Vicente

Cost/Funding Item	FY 1994/95	Totals
COST		
Construction	101,000	101,000
Totals:	101,000	101,000
FUNDING		
Surface Transportation (STP) Regional	80,000	80,000
Traffic System Management (TSM)	12,000	12,000
Prop. B Match	9,000	9,000
Totals:	101,000	101,000

Sponsor: DPT

Project: Traffic Signal at Mission, Mt. Vernon & Allison

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	89,000	89,000
Totals:	89,000	89,000
FUNDING		
AB434-Regional	89,000	89,000
Totals:	89,000	89,000

COST FUNDING MATRIX

Sponsor: DPT

Project: St. Charles Ave. Pathway Rehab. for ADA Transit Ac

Cost/Funding Item	FY 1997/98	Totals
COST		
Planning	146,260	146,260
Construction	829,253	829,253
Totals:	975,513	975,513
FUNDING		
Surface Transportation (STP) Guarantee	863,140	863,140
Traffic System Management (TSM)	112,208	112,208
Totals:	975,348	975,348

Sponsor: DPT Project: Kezar Drive Class I Bikeway

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	225,000	225,000
Totals:	225,000	225,000
FUNDING		
AB434-Regional	225,000	225,000
Totals:	225,000	225,000

COST FUNDING MATRIX

Sponsor: DPT

Project: Lincoln Way Signal Interconnect

Cost/Funding Item	FY 1996/97	Totals
COST		
Construction	395,000	395,000
Totals:	395,000	395,000
FUNDING		
Congestion Management/Air Quality (CMAQ)	350,000	350,000
Traffic System Management (TSM)	45,000	45,000
Totals:	395,000	395,000

Sponsor: DPT

Project: RTSOP-19th Ave./Park Presidio Signal Project

Cost/Funding Item	FY 1994/95	FY 1995/96	Totals
COST			
Construction	0	206,000	206,000
Totals:	0	206,000	206,000
FUNDING			
Congestion Management/Air Quality (CMAQ)	0	182,000	182,000
Traffic System Management (TSM)	0	24,000	24,000
Totals:	0	206,000	206,000

COST FUNDING MATRIX

Sponsor: DPT

Project: RTSOP-North of Market Signal Upgrades

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	499,000	499,000
Totals:	499,000	499,000
FUNDING		
Congestion Management/Air Quality (CMAQ)	442,000	442,000
Traffic System Management (TSM)	57,000	57,000
Totals:	499,000	499,000

Sponsor: DPT

Project: RTSOP-Geary Corridor Signal System Upgrade

ost/Funding Item	FY 1995/96	Totals
OST		
onstruction	472,000	472,000
otals:	472,000	472,000
NDING		
ongestion Management/Air Quality (CMAQ)	418,000	418,000
raffic System Management (TSM)	54,000	54,000
otals:	472,000	472,000

COST FUNDING MATRIX

Sponsor: DPT Project: Bicycle Commuting Hotline

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	12,500	12,500
Totals:	12,500	12,500
FUNDING		
AB434-Regional	12,500	12,500
Totals:	12,500	12,500

Cost Funding Matrix

DPT

Bicycle, Ped., Elderly, & Disabled Access. - "Spot

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
OST								
Construction	200,000	80,000	80,000	80,000	80,000	60,000	60,000	640,000
Totals:	200,000	80,000	80,000	80,000	80,000	60,000	60,000	640,000
UNDING								
Proposition B	200,000	80,000	80,000	80,000	75,000	45,000	45,000	605,000
Totals:	200,000	80,000	80,000	80,000	75,000	45,000	45,000	605,000

COST FUNDING MATRIX

Sponsor: DPT

Project: Bicycle, Ped., Elderly, & Disabled Access. - Bicyc

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Planning	150,000	0	0	0	0	0	0	150,000
Construction	720,000	1,498,000	519,000	1,982,000	525,000	397,000	460,500	6,101,500
Totals:	**870,000**	**1,498,000**	**519,000**	**1,982,000**	**525,000**	**397,000**	**460,500**	**6,251,500**
FUNDING								
Surface Transportation (STP) Regional	370,000	838,000	0	0	0	0	0	1,208,000
Transportation Enhancement (TEA)	0	395,000	0	0	0	0	0	395,000
Hazard Elimination Safety (HES)	360,000	0	0	0	0	0	0	360,000
Flexible Congestion Relief (FCR)	140,000	0	0	0	0	0	0	140,000
Traffic System Management (TSM)	53,000	0	0	0	0	0	0	53,000
TDA Capital	1,099,000	309,000	200,000	200,000	200,000	200,000	200,000	2,408,000
AB434	715,000	90,000	100,000	100,000	100,000	100,000	100,000	1,305,000
Proposition B	150,000	350,000	225,000	97,000	160,500	25,000	0	1,007,500
Totals:	**2,887,000**	**1,982,000**	**525,000**	**397,000**	**460,500**	**325,000**	**300,000**	**6,876,500**

COST FUNDING MATRIX

Sponsor: DPT Project: Alemany/Putnam Left Turn Pocket

Cost/Funding Item	FY 1997/98	Totals
COST		
Planning	6,750	6,750
Design	13,500	13,500
Construction	154,750	154,750
Totals:	175,000	175,000
FUNDING		
Surface Transportation (STP) Guarantee	155,000	155,000
Traffic System Management (TSM)	20,000	20,000
Totals:	175,000	175,000

COST FUNDING MATRIX

Sponsor: DPT

Project: Van Ness Ave. Pedestrian Safety Improvements

Cost/Funding Item	FY 1997/98	Totals
COST		
Planning	20,000	20,000
Design	55,700	55,700
Construction	612,700	612,700
Contingency	55,700	55,700
Totals:	744,100	744,100
FUNDING		
Surface Transportation (STP) Guarantee	658,500	658,500
Other Local	85,600	85,600
Totals:	744,100	744,100

COST FUNDING MATRIX

Sponsor: DPT **Project: Bayshore Weaving Ramp**

Cost/Funding Item	FY 1992/93	FY 1994/95	FY 1995/96	FY 1997/98	Totals
OST					
Planning	9,142	0	0	0	9,142
Environmental	0	858	0	0	858
Design	0	250,000	0	0	250,000
Construction	0	0	0	338,000	338,000
Contingency	0	0	0	90,000	90,000
Totals:	9,142	250,858	0	428,000	688,000
UNDING					
Surface Transportation (STP) Guarantee	200,000	225,000	113,000	0	538,000
Prop. B Match	50,000	100,000	0	0	150,000
Totals:	250,000	325,000	113,000	0	688,000

COST FUNDING MATRIX

Sponsor: DPT Project: Bike Lane Between SFSU & Golden Gate Bridge

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	165,000	165,000
Totals:	165,000	165,000
FUNDING		
AB434-Regional	165,000	165,000
Totals:	165,000	165,000

DPT	Sterling St. HOV Lanes		
Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Design	14,500	0	14,500
Totals:	14,500	0	14,500
FUNDING			
Proposition B	14,500	0	14,500
Totals:	14,500	0	14,500

COST FU[illegible]NG MATRIX

Sponsor: DPT/CCSF Project: Van Ness Traffic Signal Timing

Cost/Funding Item	FY 1992/93	Totals
COST		
Design	50,000	50,000
Totals:	50,000	50,000
FUNDING		
AB434	50,000	50,000
Totals:	50,000	50,000

Sponsor: DPT/CCSF Project: Electric Parking Enforcement Vehicle

Cost/Funding Item	FY 1992/93	Totals
COST		
Equipment	20,000	20,000
Totals:	20,000	20,000
UNDING		
AB434	20,000	20,000
Totals:	20,000	20,000

COST FUN...NG MATRIX

Sponsor: DPT/CCSF Project: Parking Enforcement Bicycle Program

Cost/Funding Item	FY 1993/94	Totals
COST		
Equipment	20,000	20,000
Totals:	20,000	20,000
FUNDING		
AB434	20,000	20,000
Totals:	20,000	20,000

Sponsor: DPW

Project: Sutter St: Street Resurfacing & Bike Lanes

Cost/Funding Item	FY 1997/98	Totals
COST		
Design	82,500	82,500
Construction	825,000	825,000
Totals:	907,500	907,500
FUNDING		
Surface Transportation (STP) Guarantee	662,000	662,000
Traffic System Management (TSM)	86,000	86,000
Prop. B Match	159,500	159,500
Totals:	907,500	907,500

COST FUNDING MATRIX

Sponsor: DPW Project: California St.:Street Resurfacing

Cost/Funding Item	FY 1996/97	FY 1998/99	Totals
COST			
Design	203,600	0	203,600
Construction	0	928,400	928,400
Totals:	203,600	928,400	1,132,000
FUNDING			
Surface Transportation (STP) Guarantee	0	829,000	829,000
Traffic System Management (TSM)	0	108,000	108,000
Prop. B Match	0	195,000	195,000
Totals:	0	1,132,000	1,132,000

COST FUNDING MATRIX

Sponsor: DPW

Project: Downtown SF Pedestrian Sign System

Cost/Funding Item	FY 1996/97	Totals
COST		
Design	48,082	48,082
Construction	432,743	432,743
Totals:	480,825	480,825
UNDING		
Transportation Enhancement (TEA)	425,600	425,600
Prop. B Match	55,225	55,225
Totals:	480,825	480,825

COST FUN. .NG MATRIX

Sponsor: DPW

Project: Curb Ramp Construction: Various Locations

Cost/Funding Item	FY 1992/93	FY 1995/96	FY 1996/97	FY 1997/98	FY 1998/99	Totals
COST						
Design	262,000	0	0	362,240	0	624,240
Construction	1,239,000	0	0	1,026,380	1,026,380	3,291,760
Totals:	1,501,000	0	0	1,388,620	1,026,380	3,916,000
FUNDING						
Surface Transportation (STP) Guarantee	1,000,000	659,000	1,478,000	0	0	3,137,000
Traffic System Management (TSM)	150,000	0	0	0	0	150,000
TDA Capital	0	171,000	107,000	0	0	278,000
Other Local	200,000	0	0	0	0	200,000
Totals:	1,350,000	830,000	1,585,000	0	0	3,765,000

COST FUNDING MATRIX

Sponsor: DPW Project: Mission Street Lighting From 14th to 24th St.

Cost/Funding Item	FY 1996/97	FY 1997/98	Totals
COST			
Design	0	142,800	142,800
Construction	0	333,200	333,200
Totals:	0	476,000	476,000
FUNDING			
Surface Transportation (STP) Guarantee	200,000	0	200,000
FHWA Livable Communities	0	250,000	250,000
Other Local	0	26,000	26,000
Totals:	200,000	276,000	476,000

COST FUNDING MATRIX

Sponsor: DPW

Project: Geneva St.: Street Resurfacing, Curb Cuts & Bike L

Cost/Funding Item	FY 1997/98	Totals
COST		
Design	128,000	128,000
Construction	1,280,000	1,280,000
Totals:	1,408,000	1,408,000
FUNDING		
Surface Transportation (STP) Guarantee	1,026,000	1,026,000
Traffic System Management (TSM)	133,000	133,000
Prop. B Match	249,000	249,000
Totals:	1,408,000	1,408,000

DPW — Street Repair & Cleaning Equip.

Cost/Funding Item	FY Previous	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	FY 2005/06	Totals
COST								
Procurement	11,762,920	1,550,000	1,278,000	1,467,000	1,220,000	1,257,000	1,296,000	19,830,920
Totals:	11,762,920	1,550,000	1,278,000	1,467,000	1,220,000	1,257,000	1,296,000	19,830,920
FUNDING								
Flexible Congestion Relief (FCR)	573,420	0	0	0	0	0	0	573,420
State Gas Tax	2,247,088	301,593	310,640	319,960	329,558	339,445	349,629	4,197,913
Proposition B	8,942,412	1,248,407	967,360	1,147,040	890,442	917,555	946,371	15,059,587
Totals:	11,762,920	1,550,000	1,278,000	1,467,000	1,220,000	1,257,000	1,296,000	19,830,920

COST FUNDING MATRIX

Sponsor: DPW Project: Mid Embarcadero Promenade Ribbon: Public Art & Str

Cost/Funding Item	FY 1996/97	Totals
COST		
Design	95,222	95,222
Construction	1,404,778	1,404,778
Totals:	1,500,000	1,500,000
FUNDING		
Transportation Enhancement (TEA)	400,000	400,000
Proposition B	1,100,000	1,100,000
Totals:	1,500,000	1,500,000

Cost Funding Matrix

DPW

Bicycle, Ped., Elderly, & Disabled Access. - Curb

Cost/Funding Item	FY Previous	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	FY 2005/06	Totals
COST								
Construction	23,297,374	0	0	0	0	0	0	23,297,374
Totals:	23,297,374	0	0	0	0	0	0	23,297,374
FUNDING								
Surface Transportation (STP) Regional	3,973,720	445,454	454,363	463,451	472,720	482,174	491,818	6,783,700
Emergency Relief (ER)	131,785	0	0	0	0	0	0	131,785
State Gas Tax	200,000	0	0	0	0	0	0	200,000
TDA Capital	1,780,972	217,336	221,683	226,117	230,639	235,252	239,957	3,151,956
Proposition B	1,304,000	0	0	0	0	0	0	1,304,000
General Fund	41,589	0	0	0	0	0	0	41,589
Totals:	7,432,066	662,790	676,046	689,568	703,359	717,426	731,775	11,613,030

COST FUNDING MATRIX

Sponsor: DPW Project: CNG Street Sweeper

Cost/Funding Item	FY 1997/98	Totals
COST		
Equipment	152,000	152,000
Totals:	152,000	152,000
FUNDING		
AB434	152,000	152,000
Totals:	152,000	152,000

Cost Funding Matrix

DPW

Bicycle, Ped., Elderly, & Disabled Access. - Unide

Cost/Funding Item	FY Previous	None	Totals
Cost			
Environmental	0	0	0
ROW Acquisition	0	0	0
Procurement	0	0	0
Totals:	0	0	0

Cost Funding Matrix

DPW — Pedestrian Access Improvements

Cost/Funding Item	FY Previous	None	Totals
Cost			
Construction	110,000	0	110,000
Totals:	110,000	0	110,000
Funding			
General Fund	41,589	0	41,589
Totals:	41,589	0	41,589

Cost Funding Matrix

DPW — **Downtown Ped. Proj. - Fourth St. Widening**

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Construction	959,000	1,357,000	2,316,000
Totals:	959,000	1,357,000	2,316,000
FUNDING			
Surface Transportation (STP) Guarantee	35,000	0	35,000
Surface Transportation (STP) Regional	267,000	0	267,000
Transportation Enhancement (TEA)	0	425,600	425,600
Proposition B	657,000	931,400	1,588,400
Totals:	959,000	1,357,000	2,316,000

Cost Funding Matrix

DPW

Bicycle, Ped., Elderly, & Disabled Access. - Pembe

Cost/Funding Item	FY Previous	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
COST								
Construction	4,384,686	320,000	325,000	330,000	340,000	350,000	350,000	6,399,686
Totals:	4,384,686	320,000	325,000	330,000	340,000	350,000	350,000	6,399,686
FUNDING								
Surface Transportation (STP) Regional	780,000	0	0	0	0	0	0	780,000
State Gas Tax	886,000	116,000	119,000	121,000	124,000	126,000	129,000	1,621,000
TDA Capital	158,686	0	0	0	0	0	0	158,686
Proposition B	830,000	0	0	0	0	0	0	830,000
General Fund	200,000	0	0	0	0	0	0	200,000
Totals:	2,854,686	116,000	119,000	121,000	124,000	126,000	129,000	3,589,686

Cost Funding Matrix

DPW — TPS- Unidentified Projects

Cost/Funding Item	FY Previous	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	None	Totals
COST								
Planning	97,402	17,659	18,000	13,400	14,000	14,600	0	175,061
Design	487,053	88,297	90,000	67,000	70,000	73,000	0	875,350
Construction	2,824,916	512,120	522,000	388,600	406,000	423,400	0	5,077,036
Contingency	1,461,162	264,890	270,000	201,000	210,000	219,000	0	2,626,052
Totals:	4,870,533	882,966	900,000	670,000	700,000	730,000	0	8,753,499
FUNDING								
Surface Transportation (STP) Regional	1,126,420	0	0	0	0	0	0	1,126,420
Congestion Management/Air Quality (CMA	837,000	0	0	0	0	0	0	837,000
Transportation Enhancement (TEA)	1,000,000	0	0	0	0	0	0	1,000,000
Traffic System Management (TSM)	1,384,812	610,000	640,000	670,000	700,000	730,000	0	4,734,812
Proposition B	522,311	272,965	260,000	0	0	0	0	1,055,276
Totals:	4,870,543	882,965	900,000	670,000	700,000	730,000	0	8,753,508

COST FUNDING MATRIX

Sponsor: DPW Project: CNG Street Sweepers

Cost/Funding Item	FY 1996/97	Totals
COST		
Design	28,000	28,000
Equipment	252,000	252,000
Totals:	280,000	280,000
FUNDING		
AB434	28,000	28,000
AB434-Regional	252,000	252,000
Totals:	280,000	280,000

Cost Funding Matrix

DPW

T. P.S. Bus Lane Sign &Restriping.- (DPW)

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Construction	23,200	0	23,200
Totals:	23,200	0	23,200
FUNDING			
Proposition B	23,200	0	23,200
Totals:	23,200	0	23,200

Cost Funding Matrix

DPW

Transit P.S. - Castro St. Bus Bulb (DPW)

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Construction	392,000	0	392,000
Totals:	392,000	0	392,000
FUNDING			
Proposition B	392,000	0	392,000
Totals:	392,000	0	392,000

DPW

Planting & Maint. of Additional Trees

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	Totals
COST					
Construction	4,181,000	1,100,000	1,100,000	1,100,000	7,481,000
Totals:	4,181,000	1,100,000	1,100,000	1,100,000	7,481,000
FUNDING					
Environmental Enhancement and Mitigatio	50,000	0	0	0	50,000
Proposition B	4,131,000	1,100,000	1,100,000	1,100,000	7,431,000
Totals:	4,181,000	1,100,000	1,100,000	1,100,000	7,481,000

Cost Funding Matrix

DPW

Planting & Maint. of Existing Trees

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Contingency	9,147,500	1,557,625	1,615,506	1,676,282	1,740,096	1,707,100	1,477,455	18,921,564
Totals:	9,147,500	1,557,625	1,615,506	1,676,282	1,740,096	1,707,100	1,477,455	18,921,564
FUNDING								
State Gas Tax	6,897,500	1,157,625	1,215,506	1,276,282	1,340,096	1,407,100	1,477,455	14,771,564
Proposition B	2,250,000	400,000	400,000	400,000	400,000	300,000	0	4,150,000
Totals:	9,147,500	1,557,625	1,615,506	1,676,282	1,740,096	1,707,100	1,477,455	18,921,564

DPW

Street Resurfacing

Cost/Funding Item	FY Previous	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	FY 2005/06	Totals
COST								
Construction	272,066,000	16,200,000	16,700,000	17,200,000	17,700,000	18,200,000	18,700,000	376,766,000
Totals:	272,066,000	16,200,000	16,700,000	17,200,000	17,700,000	18,200,000	18,700,000	376,766,000
FUNDING								
Surface Transportation (STP) Regional	15,353,000	1,551,000	1,598,000	1,645,000	1,695,000	1,746,000	1,798,000	25,386,000
State and Local Transportation Partnership	6,404,000	303,000	309,000	315,000	322,000	328,000	335,000	8,316,000
Proposition B	97,085,000	16,200,000	10,000,000	10,000,000	9,000,000	0	0	142,285,000
General Fund	12,600,000	0	0	0	0	0	0	12,600,000
Totals:	131,442,000	18,054,000	11,907,000	11,960,000	11,017,000	2,074,000	2,133,000	188,587,000

Cost Funding ... trix

DPW

Bernal Heights St. System Upgrading

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	Totals
COST					
Planning	205,000	0	0	0	205,000
Design	400,000	0	0	0	400,000
ROW Acquisition	135,000	0	0	0	135,000
Construction	2,620,000	2,450,000	0	1,570,000	6,640,000
Totals:	3,360,000	2,450,000	0	1,570,000	7,380,000
FUNDING					
TDA Capital	25,000	0	0	0	25,000
Proposition B	3,335,000	2,450,000	0	1,570,000	7,355,000
Totals:	3,360,000	2,450,000	0	1,570,000	7,380,000

DPW	19th & Holloway Safety Imp. (A&B)		
Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Planning	124,084	0	124,084
Design	730,928	0	730,928
Construction	3,362,046	0	3,362,046
Totals:	4,217,058	0	4,217,058
FUNDING			
Proposition B	450,000	0	450,000
Totals:	450,000	0	450,000

DPW

Embarcadero Roadway

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Design	3,100,000	0	0	0	0	0	0	3,100,000
Construction	142,081,034	62,127,785	0	0	0	0	0	204,208,819
Incremental O&M Costs	764,580	404,300	383,137	564,537	587,119	610,604	635,028	3,949,305
Totals:	**145,945,614**	**62,532,085**	**383,137**	**564,537**	**587,119**	**610,604**	**635,028**	**211,258,124**
FUNDING								
Fixed Guideway	62,034,350	0	0	0	0	0	0	62,034,350
Transportation Enhancement (TEA)	735,000	400,000	0	0	0	0	0	1,135,000
Emergency Relief (ER)	39,223,674	40,497,954	0	0	0	0	0	79,721,628
Flexible Congestion Relief (FCR)	5,353,060	11,228,831	0	0	0	0	0	16,581,891
State Gas Tax	12,623,020	0	0	0	0	0	0	12,623,020
STA	0	0	4,900,000	550,000	4,551,000	0	0	10,001,000
Proposition B	21,426,540	10,001,000	-4,900,000	-550,000	-4,551,000	0	0	21,426,540
Off-Street Parking Fund	3,682,978	0	0	0	0	0	0	3,682,978
General Fund	102,412	0	0	0	0	0	0	102,412
Prop. B Sales Tax - Incremental O&M	764,580	404,300	383,137	564,537	587,119	610,604	635,028	3,949,305
Totals:	**145,945,614**	**62,532,085**	**383,137**	**564,537**	**587,119**	**610,604**	**635,028**	**211,258,124**

DPW

Sidewalk Repair

Cost/Funding Item	FY Previous	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	FY 2005/06	Totals
COST								
Construction	8,160,000	600,000	600,000	600,000	600,000	600,000	600,000	11,760,000
Contingency	3,460,800	0	0	0	0	0	0	3,460,800
Totals:	11,620,800	600,000	600,000	600,000	600,000	600,000	600,000	15,220,800
FUNDING								
Proposition B	5,760,000	600,000	515,000	325,000	0	0	0	7,200,000
General Fund	2,400,000	0	0	0	0	0	0	2,400,000
Totals:	8,160,000	600,000	515,000	325,000	0	0	0	9,600,000

Cost Funding . trix

DPW

Railroad Track Removal/Repair

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Construction	3,600,000	400,000	4,000,000
Totals:	3,600,000	400,000	4,000,000
FUNDING			
TDA Capital	200,000	0	200,000
Proposition B	3,400,000	400,000	3,800,000
Totals:	3,600,000	400,000	4,000,000

DPW

Seismic Reinforcement

Cost/Funding Item	FY Previous	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	FY 2005/06	Totals
COST								
Environmental	150,000	50,000	50,000	0	0	0	0	250,000
Design	1,700,000	450,000	450,000	0	0	0	0	2,600,000
Construction	12,950,000	0	9,500,000	500,000	500,000	500,000	500,000	24,450,000
Totals:	14,800,000	500,000	10,000,000	500,000	500,000	500,000	500,000	27,300,000
FUNDING								
Seismic Bridge Retrofit	11,100,000	400,000	8,000,000	0	0	0	0	19,500,000
Proposition B	2,000,000	0	0	0	0	0	0	2,000,000
Totals:	13,100,000	400,000	8,000,000	0	0	0	0	21,500,000

Cost Funding Matrix

DPW

Undergrnd Crossover Drive thr. Golden Gate Park

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Construction	0	0	0
Totals:	0	0	0
FUNDING			
Proposition B	0	0	0
Totals:	0	0	0

COST FUNDING MATRIX

Sponsor: GGT

Project: Automated Bus Scheduling/Operations Data Base

Cost/Funding Item	FY 1994/95	Totals	
COST			
Construction	678,000	678,000	
Totals:	678,000	678,000	
FUNDING			
Congestion Management/Air Quality (CMAQ)	600,000	600,000	
Traffic System Management (TSM)	78,000	78,000	
Other Local	100,000	100,000	GGB Tolls
Totals:	778,000	778,000	

COST FUNDING MATRIX

Sponsor: GGT

Project: Ferry Vessel Radar Replacement

Cost/Funding Item	FY 1997/98	Totals
COST		
Construction	140,000	140,000
Totals:	140,000	140,000
FUNDING		
Surface Transportation (STP) Guarantee	124,000	124,000
Traffic System Management (TSM)	16,000	16,000
Totals:	140,000	140,000

COST FUNDING MATRIX

Sponsor: GGT

Project: Translink/Farebox Replacement

Cost/Funding Item	FY 1994/95	FY 1995/96	FY 1996/97	Totals
COST				
Construction	788,000	1,432,000	1,624,000	3,844,000
Totals:	788,000	1,432,000	1,624,000	3,844,000
FUNDING				
Congestion Management/Air Quality (CMAQ)	697,000	1,267,000	1,437,000	3,401,000
Traffic System Management (TSM)	91,000	165,000	187,000	443,000
Totals:	788,000	1,432,000	1,624,000	3,844,000

COST FU ING MATRIX

Sponsor: JPB

Project: Railcar Rehabilitation

Cost/Funding Item	FY 1995/96	FY 1996/97	FY 1997/98	FY 1998/99	Totals
COST					
Construction	4,638,000	165,000	4,064,000	2,388,000	11,255,000
Totals:	4,638,000	165,000	4,064,000	2,388,000	11,255,000
FUNDING					
Section 9	3,444,000	0	3,251,000	0	6,695,000
Surface Transportation (STP) Regional	255,000	146,000	0	0	401,000
Prop 116	939,000	19,000	813,000	2,388,000	4,159,000
Totals:	4,638,000	165,000	4,064,000	2,388,000	11,255,000

COST FUNDING MATRIX

Sponsor: JPB Project: Caltrain Locomotive Rebuild

Cost/Funding Item	FY 1995/96	FY 1996/97	FY 1997/98	FY 1998/99	FY 1999/00	Totals
COST						
Construction	4,834,000	2,417,000	4,604,000	5,653,000	4,740,000	22,248,000
Totals:	4,834,000	2,417,000	4,604,000	5,653,000	4,740,000	22,248,000
FUNDING						
Section 9	0	0	3,683,000	4,522,000	3,792,000	11,997,000
Surface Transportation (STP) Regional	4,278,000	2,139,000	0	0	0	6,417,000
Prop 116	556,000	278,000	921,000	1,131,000	948,000	3,834,000
Totals:	4,834,000	2,417,000	4,604,000	5,653,000	4,740,000	22,248,000

COST FUNDING MATRIX

Sponsor: Laguna Honda Hospital Project: LPG Retrofit Program

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	56,945	56,945
Totals:	56,945	56,945
FUNDING		
AB434	56,945	56,945
Totals:	56,945	56,945

COST FUNDING MATRIX

Sponsor: MTC Project: Regional Traffic Signalization & Operations Progra

Cost/Funding Item	FY 1997/98	Totals
COST		
Construction	601,000	601,000
Totals:	601,000	601,000
FUNDING		
Surface Transportation (STP) Regional	532,000	532,000
Other Local	69,000	69,000
Totals:	601,000	601,000

COST FUNDING MATRIX

Sponsor: MTC

Project: Traffic Engineering Technical Assistance Program (

Cost/Funding Item	FY 1997/98	Totals
COST		
Construction	49,000	49,000
Totals:	49,000	49,000
FUNDING		
Surface Transportation (STP) Regional	43,000	43,000
Other Local	6,000	6,000
Totals:	49,000	49,000

Mission Bay Metro Ext. MUNI

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	Totals
COST				
Planning	1,732,500	0	0	1,732,500
Totals:	1,732,500	0	0	1,732,500
FUNDING				
Prop 108	500,000	0	0	500,000
Proposition B	1,232,500	0	0	1,232,500
Totals:	1,732,500	0	0	1,732,500

Cost Funding [illegible]ix

MUNI

- Boarding Platform Church & 18th

Cost/Funding Item	FY Previous	None	Totals
Cost			
ROW Acquisition	0	0	0
Procurement	0	0	0
Totals:	0	0	0
Funding			
Proposition B	165,000	0	165,000
Totals:	165,000	0	165,000

Cost Funding Matrix

Revenue Center Replacement MUNI

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	None	Totals
COST							
Planning	422,819	150,000	0	0	0	0	572,819
Design	0	0	350,000	0	0	0	350,000
Construction	0	0	0	2,025,000	2,025,000	0	4,050,000
Contingency	0	0	0	0	450,000	0	450,000
Totals:	422,819	150,000	350,000	2,025,000	2,475,000	0	5,422,819
Funding							
Section 9	338,315	0	0	0	0	0	338,315
Transit Capital Improvement (TCI)	0	0	0	2,250,000	0	0	2,250,000
STA	84,504	0	0	0	0	0	84,504
Proposition B	0	0	425,000	2,250,000	0	0	2,675,000
SFMRIC	75,000	0	0	0	0	0	75,000
Totals:	497,819	0	425,000	4,500,000	0	0	5,422,819

COST FUNDING MATRIX

Sponsor: MUNI Project: Translink

Cost/Funding Item	FY 1994/95	FY 1995/96	FY 1996/97	Totals
COST				
Construction	0	9,180,661	0	9,180,661
Totals:	0	9,180,661	0	9,180,661
FUNDING				
Congestion Management/Air Quality (CMAQ)	4,008,000	0	4,116,000	8,124,000
Traffic System Management (TSM)	520,813	0	534,847	1,055,660
Totals:	4,528,813	0	4,650,847	9,179,660

COST FUNDING MATRIX

Sponsor: MUNI Project: Bus Stop Improvements

Cost/Funding Item	FY 1993/94	Totals
COST		
Construction	610,000	610,000
Totals:	610,000	610,000
FUNDING		
Congestion Management/Air Quality (CMAQ)	540,000	540,000
Traffic System Management (TSM)	70,000	70,000
Totals:	610,000	610,000

Muni Metro Turnback

MUNI Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Planning	3,620,000	0	3,620,000
Environmental	390,000	0	390,000
Design	16,130,000	0	16,130,000
ROW Acquisition	5,100,000	0	5,100,000
Construction	177,092,364	0	177,092,364
Totals:	202,332,364	0	202,332,364
FUNDING			
Fixed Guideway	121,497,500	0	121,497,500
Surface Transportation (STP) Regional	5,400,000	0	5,400,000
Congestion Management/Air Quality (CMA	3,400,000	0	3,400,000
Seismic Bridge Retrofit	1,105,000	0	1,105,000
Prop 108	3,125,000	0	3,125,000
Transit Capital Improvement (TCI)	22,431,900	0	22,431,900
Traffic System Management (TSM)	1,140,134	0	1,140,134
AB664	500,000	0	500,000
Regional Measure One	5,998,900	0	5,998,900
Proposition B	15,415,282	0	15,415,282
General Fund	269,000	0	269,000
Totals:	180,282,716	0	180,282,716

Cost Funding Matrix

MUNI etro Subway Signal System (ATCS)

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	Totals
COST				
Planning	7,400,000	2,400,000	1,000,000	10,800,000
Environmental	9,800,000	3,800,000	1,386,000	14,986,000
Design	23,040,000	7,683,402	10,687,598	41,411,000
ROW Acquisition	1,000,000	1,000,000	400,000	2,400,000
Totals:	41,240,000	14,883,402	13,473,598	69,597,000
FUNDING				
Fixed Guideway	13,500,000	0	0	13,500,000
Section 9	17,200,000	0	0	17,200,000
Prop 108	2,940,000	0	0	2,940,000
Prop 116	6,247,362	3,182,282	0	9,429,644
Flexible Congestion Relief (FCR)	0	3,553,154	0	3,553,154
Transit Capital Improvement (TCI)	4,400,000	0	0	4,400,000
AB664	1,052,670	0	0	1,052,670
Regional Measure One	1,900,000	0	0	1,900,000
Proposition B	5,853,000	0	0	5,853,000
SFMRIC	1,721,021	0	0	1,721,021
Transit Impact Development Fee (TIDF)	6,590,000	0	0	6,590,000
General Fund	1,364,564	0	0	1,364,564
Totals:	62,768,617	6,735,436	0	69,504,053

Cost Funding Matrix

MMX - Embarcadero to MMX MUNI

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	Totals
COST						
Design	500,000	0	0	0	0	500,000
Construction	0	7,600,000	0	0	0	7,600,000
Totals:	500,000	7,600,000	0	0	0	8,100,000
FUNDING						
Regional Measure One	0	175,000	175,000	500,000	2,650,000	3,500,000
Proposition B	0	4,100,000	0	0	0	4,100,000
SFMRIC	0	500,000	0	0	0	500,000
Totals:	0	4,775,000	175,000	500,000	2,650,000	8,100,000

Cost Funding Matrix

MUNI

F-Line Streetcar - Market St.

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Planning	1,966,943	0	0	0	0	0	0	1,966,943
Environmental	102,000	0	0	0	0	0	0	102,000
Design	8,466,378	0	0	0	0	0	0	8,466,378
Procurement	75,000	0	0	0	0	0	0	75,000
Construction	63,000,000	887,000	1,400,000	0	0	0	0	65,287,000
Incremental O&M Costs	2,236,343	1,275,000	1,313,250	1,352,500	1,393,000	1,435,000	1,478,000	10,483,093
Totals:	75,846,664	2,162,000	2,713,250	1,352,500	1,393,000	1,435,000	1,478,000	86,380,414
FUNDING								
Fixed Guideway	9,849,375	0	0	0	0	0	0	9,849,375
Section 9	15,103,388	0	0	0	0	0	0	15,103,388
Surface Transportation (STP) Guarantee	3,838,492	0	0	0	0	0	0	3,838,492
Transportation Enhancement (TEA)	949,111	0	0	0	0	0	0	949,111
Prop 108	12,562,508	0	0	0	0	0	0	12,562,508
Transit Capital Improvement (TCI)	8,119,815	0	0	0	0	0	0	8,119,815
STA	148,740	0	0	0	0	0	0	148,740
AB664	785,970	0	0	0	0	0	0	785,970
Proposition B	12,299,000	0	0	0	0	0	0	12,299,000
SFMIRIC	1,300,125	0	0	0	0	0	0	1,300,125
Transit Impact Development Fee (TIDF)	759,506	0	0	0	0	0	0	759,506
Off-Street Parking Fund	2,172,945	887,000	1,400,000	0	0	0	0	4,459,945
General Fund	2,372,079	0	0	0	0	0	0	2,372,079
Prop. B Sales Tax - Incremental O&M	2,235,843	1,275,000	1,313,250	1,352,500	1,393,000	1,435,000	0	9,004,593
Totals:	72,496,897	2,162,000	2,713,250	1,352,500	1,393,000	1,435,000	0	81,552,647

MUNI

Line - Fishermans PCC Renovation

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	Totals
COST				
Design	500,000	0	0	500,000
Construction	11,703,100	0	0	11,703,100
Totals:	12,203,100	0	0	12,203,100
FUNDING				
Section 9	2,463,272	0	0	2,463,272
Prop 103	362,000	0	0	362,000
Prop 116	500,000	0	0	500,000
Transit Capital Improvement (TCI)	3,544,814	0	2,800,000	6,344,814
Proposition B	3,955,000	0	0	3,955,000
SFMRIC	329,079	0	0	329,079
Transit Impact Development Fee (TIDF)	276,659	0	0	276,659
Off-Street Parking Fund	245,748	0	0	245,748
Totals:	11,676,572	0	2,800,000	14,476,572

Cost Funding Matrix

MUNI

F-Line Streetcar - Embarcadero

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Design	8,503,000	0	0	0	0	0	0	8,503,000
Procurement	75,000	0	0	0	0	0	0	75,000
Construction	27,437,080	3,783,939	10,856,038	0	0	0	0	42,077,057
Incremental O&M Costs	0	0	394,071	733,450	755,000	780,000	805,000	3,467,521
Totals:	36,015,080	3,783,939	11,250,109	733,450	755,000	780,000	805,000	54,122,578
FUNDING								
Prop 108	17,100,000	0	0	0	0	0	0	17,100,000
Prop 116	8,500,000	0	0	0	0	0	0	8,500,000
Transit Capital Improvement (TCI)	1,876,600	0	0	0	0	0	0	1,876,600
Regional Measure One	13,192,029	0	0	0	0	0	0	13,192,029
Proposition B	19,542,100	0	0	0	0	0	0	19,542,100
Transit Impact Development Fee (TIDF)	650,000	0	0	0	0	0	0	650,000
Off-Street Parking Fund	334,000	0	0	0	0	0	0	334,000
General Fund	514,850	0	0	0	0	0	0	514,850
Prop. B Sales Tax - Incremental O&M	0	0	118,221	366,725	453,000	546,000	0	1,483,946
Totals:	61,709,579	0	118,221	366,725	453,000	546,000	0	63,193,525

Cost Funding Matrix

MUNI

LRV Modifications (76)

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Planning	1,477,000	0	1,477,000
Environmental	443,000	0	443,000
Design	756,000	397,000	1,153,000
ROW Acquisition	2,491,225	0	2,491,225
Procurement	6,624,000	9,000	6,633,000
Construction	6,661,000	0	6,661,000
Contingency	3,318,000	0	3,318,000
Totals:	21,770,225	406,000	22,176,225
FUNDING			
Section 9	12,369,800	0	12,369,800
Transit Capital Improvement (TCI)	1,373,000	0	1,373,000
AB664	799,975	0	799,975
Proposition B	800,000	0	800,000
SFMRIC	1,953,000	0	1,953,000
Transit Impact Development Fee (TIDF)	3,650,000	0	3,650,000
General Fund	1,600,000	0	1,600,000
Totals:	22,545,775	0	22,545,775

Cost Funding Matrix

Muni Metro Extension Seg. 1 & 2 MUNI

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Planning	1,281,000	0	0	0	0	0	0	1,281,000
Environmental	633,850	0	0	0	0	0	0	633,850
Design	4,443,000	0	0	0	0	0	0	4,443,000
ROW Acquisition	185,000	0	0	0	0	0	0	185,000
Procurement	0	0	0	0	0	0	0	0
Construction	46,407,000	0	0	0	0	0	0	46,407,000
Incremental O&M Costs	0	1,445,000	1,520,000	1,595,000	1,675,000	1,755,000	1,845,000	9,835,000
Totals:	52,949,850	1,445,000	1,520,000	1,595,000	1,675,000	1,755,000	1,845,000	62,784,850
FUNDING								
Prop 108	23,600,000	0	0	0	0	0	0	23,600,000
Prop 116	1,500,000	0	0	0	0	0	0	1,500,000
Transit Capital Improvement (TCI)	1,135,000	0	0	0	0	0	0	1,135,000
BART Capital Reserves (Resolution 1876)	15,000,000	0	0	0	0	0	0	15,000,000
Proposition B	9,100,000	0	0	31,825,000	0	0	0	40,925,000
Transit Impact Development Fee (TIDF)	2,600,000	0	0	0	0	0	0	2,600,000
General Fund	194,850	0	0	0	0	0	0	194,850
Prop. B Sales Tax - Incremental O&M	0	1,445,000	1,520,000	1,595,000	1,675,000	1,755,000	1,845,000	9,835,000
Totals:	53,129,850	1,445,000	1,520,000	33,420,000	1,675,000	1,755,000	1,845,000	94,789,850

Cost Funding Matrix

MUNI — Potrero Division Rehab.

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	None	Totals
COST								
Planning	0	50,000	0	0	0	0	0	50,000
Design	1,202,135	200,000	0	0	0	0	0	1,402,135
Procurement	0	0	1,400,000	0	0	0	0	1,400,000
Construction	7,220,000	0	150,000	0	0	0	0	7,370,000
Contingency	0	0	200,000	0	0	0	0	200,000
Totals:	**8,422,135**	**250,000**	**1,750,000**	**0**	**0**	**0**	**0**	**10,422,135**
FUNDING								
Section 9	5,151,860	0	0	0	0	0	0	5,151,860
Surface Transportation (STP) Regional	0	0	868,204	0	0	0	0	868,204
Transit Capital Improvement (TCI)	928,867	0	875,000	0	0	0	0	1,803,867
STA	133,711	0	0	0	0	0	0	133,711
Proposition B	650,000	250,000	875,000	0	0	0	0	1,775,000
SFMRIC	1,530,000	0	0	0	0	0	0	1,530,000
General Fund	40,000	0	0	750,000	750,000	0	0	1,540,000
Totals:	**8,434,438**	**250,000**	**2,618,204**	**750,000**	**750,000**	**0**	**0**	**12,802,642**

MUNI	19th Avenue Platforms		
Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Planning	317,604	0	317,604
Design	1,000,000	0	1,000,000
Contingency	9,000,000	0	9,000,000
Totals:	10,317,604	0	10,317,604
FUNDING			
Section 9	7,969,567	0	7,969,567
Surface Transportation (STP) Guarantee	352,000	0	352,000
Prop 116	261,000	0	261,000
Transit Capital Improvement (TCI)	685,000	0	685,000
AB664	535,909	0	535,909
SFMRIC	261,000	0	261,000
Transit Impact Development Fee (TIDF)	425,000	0	425,000
General Fund	82,128	0	82,128
Totals:	10,571,604	0	10,571,604

Sponsor: MUNI Project: Rail Corridor Proj. Manag.

Cost/Funding Item	FY Previous	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
COST								
Environmental	617,807	114,865	120,609	126,639	132,971	139,620	146,601	1,399,112
Totals:	617,807	114,865	120,609	126,639	132,971	139,620	146,601	1,399,112
Funding								
Proposition B	6,031,582	0	0	0	0	0	0	6,031,582
Totals:	6,031,582	0	0	0	0	0	0	6,031,582

Cost Funding Matrix

MUNI

Metro Accessibility Improvements

Cost/Funding Item	FY Previous	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	Totals
FUNDING								
Section 9	9,696,314	1,040,000	1,120,000	1,170,000	1,240,000	1,300,000	1,365,000	16,931,314
Surface Transportation (STP) Guarantee	1,387,515	0	0	0	0	0	0	1,387,515
State Gas Tax	2,296,000	0	0	0	0	0	0	2,296,000
Transit Capital Improvement (TCI)	288,788	527,255	130,000	140,000	150,000	160,000	170,625	1,566,668
STA	16,301	0	0	0	0	0	0	16,301
AB664	459,100	120,000	130,000	140,000	150,000	160,000	170,625	1,329,725
Proposition B	2,581,000	0	0	0	0	0	0	2,581,000
SFMIRIC	262,256	0	0	0	0	0	0	262,256
General Fund	0	407,255	0	0	0	0	0	407,255
Totals:	16,987,274	2,094,510	1,380,000	1,450,000	1,540,000	1,620,000	1,706,250	26,778,034

Cost Funding

MUNI

nvironmental Health & Safety Imp.

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Construction	0	0	0
Totals:	0	0	0
FUNDING			
Proposition B	0	0	0
Totals:	0	0	0

Cost Funding Matrix

MUNI

Green & Geneva Modifications

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	Totals
COST				
Planning	345,000	0	0	345,000
Environmental	621,000	0	0	621,000
Design	1,345,000	0	0	1,345,000
ROW Acquisition	1,496,000	0	0	1,496,000
Construction	12,067,766	0	0	12,067,766
Totals:	15,874,766	0	0	15,874,766
FUNDING				
Fixed Guideway	3,970,293	0	0	3,970,293
Section 9	796,800	0	0	796,800
Prop 116	3,000,000	0	0	3,000,000
Transit Capital Improvement (TCI)	3,713,595	0	2,050,000	5,763,595
STA	199,000	0	0	199,000
AB664	400,553	0	0	400,553
Proposition B	2,970,000	0	2,050,000	5,020,000
SFMTRIC	156,313	0	0	156,313
General Fund	57,000	0	0	57,000
Totals:	15,263,554	0	4,100,000	19,363,554

Cost Funding M...

MUNI

1401 Bryant Street Rehab.

Cost/Funding Item	FY Previous	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
COST								
Planning	110,000	0	0	330,000	0	0	0	440,000
Design	0	0	0	0	385,000	385,000	0	770,000
Construction	0	0	0	0	0	4,500,000	4,500,000	9,000,000
Contingency	0	0	0	0	0	0	1,000,000	1,000,000
Totals:	110,000	0	0	330,000	385,000	4,885,000	5,500,000	11,210,000
FUNDING								
Fixed Guideway	0	0	0	0	0	8,000,000	0	8,000,000
Transit Capital Improvement (TCI)	0	0	0	0	0	1,000,000	0	1,000,000
Proposition B	100,000	0	0	0	0	0	0	100,000
General Fund	10,000	0	0	0	0	0	0	10,000
Totals:	110,000	0	0	0	0	9,000,000	0	9,110,000

Cost Funding Matrix

Fixed Facilities Rehab.

MUNI

Cost/Funding Item	FY Previous	FY 1996/97	Totals
FUNDING			
Proposition B	794,219	0	794,219
Totals:	794,219	0	794,219

MUNI

Graffitti Prevention

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	Totals
COST				
Procurement	5,050,000	0	0	5,050,000
Totals:	5,050,000	0	0	5,050,000
FUNDING				
Proposition B	50,000	2,500,000	2,500,000	5,050,000
Totals:	50,000	2,500,000	2,500,000	5,050,000

Cost Funding Matrix

MUNI — **Operating Restrooms**

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	Totals
COST				
Planning	50,000	0	0	50,000
Design	150,000	0	0	150,000
Construction	900,004	184,000	1,100,000	2,184,004
Totals:	1,100,004	184,000	1,100,000	2,384,004
FUNDING				
Proposition B	1,284,000	0	1,100,000	2,384,000
Totals:	1,284,000	0	1,100,000	2,384,000

MUNI

TPS - Signal Pre-emption

Cost/Funding Item	FY Previous	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
COST							
Planning	56,443	5,100	5,400	5,600	5,800	6,000	84,343
Design	282,213	25,500	27,000	28,000	29,000	30,000	421,713
Procurement	1,354,621	122,400	129,600	134,400	139,200	144,000	2,024,221
Construction	2,257,702	204,000	216,000	224,000	232,000	240,000	3,373,702
Contingency	1,693,276	153,000	162,000	168,000	174,000	180,000	2,530,276
Totals:	5,644,255	510,000	540,000	560,000	580,000	600,000	8,434,255
FUNDING							
Fixed Guideway	139,885	0	0	0	0	0	139,885
New Starts	120,500	0	0	0	0	0	120,500
Surface Transportation (STP) Regional	1,475,795	0	0	0	0	0	1,475,795
Traffic System Management (TSM)	1,478,223	510,000	540,000	560,000	580,000	600,000	4,268,223
STA	3,851	0	0	0	0	0	3,851
AB434	250,000	0	0	0	0	0	250,000
Proposition B	218,000	0	0	0	0	0	218,000
General Fund	1,958,000	0	0	0	0	0	1,958,000
Totals:	5,644,254	510,000	540,000	560,000	580,000	600,000	8,434,254

Cost Funding Matrix

MUNI

4th & Utah Rep. (700 Pennsylvania)

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	Totals
COST				
Planning	550,115	0	0	550,115
Design	1,717,000	0	0	1,717,000
ROW Acquisition	3,265,000	0	0	3,265,000
Construction	201,285	10,380,150	3,460,050	14,041,485
Contingency	0	0	926,400	926,400
Totals:	5,733,400	10,380,150	4,386,450	20,500,000
FUNDING				
Section 9	7,336,470	0	0	7,336,470
Transit Capital Improvement (TCI)	0	3,204,000	0	3,204,000
STA	51,928	0	0	51,928
Proposition B	4,000,000	2,783,000	0	6,783,000
SFMRIC	3,124,602	0	0	3,124,602
Totals:	14,513,000	5,987,000	0	20,500,000

MUNI

Financial Capacity Study

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Planning	240,000	0	240,000
Totals:	240,000	0	240,000
FUNDING			
Proposition B	240,000	0	240,000
Totals:	240,000	0	240,000

Cost Funding Matrix

Maintenance and Repair Equipment

Cost/Funding Item	FY Previous	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
FUNDING								
Section 9	11,846,289	0	0	0	2,478,000	2,493,750	2,731,995	19,550,034
General Fund	17,481,077	4,410,000	4,597,500	4,825,000	2,513,500	2,603,337	2,693,856	39,124,270
Totals:	29,327,366	4,410,000	4,597,500	4,825,000	4,991,500	5,097,087	5,425,851	58,674,304

Cost Funding Matrix

Capital Staffing Position

Cost/Funding Item	FY Previous	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	Totals
COST								
Planning	367,000	318,261	318,261	318,261	318,261	318,261	318,261	2,276,566
Totals:	367,000	318,261	318,261	318,261	318,261	318,261	318,261	2,276,566
FUNDING								
Proposition B	367,000	318,261	318,261	318,261	318,261	318,261	318,261	2,276,566
Totals:	367,000	318,261	318,261	318,261	318,261	318,261	318,261	2,276,566

Cost Funding Matrix

MUNI

LRV Purchase (136)

Cost/Funding Item	FY Previous	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	Totals
COST								
Procurement	239,583,790	70,990,600	47,991,380	14,735,600	7,156,800	0	0	380,458,170
Totals:	239,583,790	70,990,600	47,991,380	14,735,600	7,156,800	0	0	380,458,170
FUNDING								
Fixed Guideway	128,211,131	19,165,196	19,165,196	19,165,196	19,165,196	11,346,930	11,484,469	227,703,314
Section 9	888,146	0	0	0	0	0	0	888,146
Surface Transportation (STP) Regional	3,271,000	0	0	0	0	0	0	3,271,000
Congestion Management/Air Quality (CMA	4,514,000	0	0	0	0	0	0	4,514,000
Prop 108	30,868,000	0	0	0	0	0	0	30,868,000
Prop 116	11,570,356	0	0	0	0	0	0	11,570,356
Flexible Congestion Relief (FCR)	87,793,000	0	0	0	0	0	0	87,793,000
Transit Capital Improvement (TCI)	14,961,112	0	0	0	0	0	0	14,961,112
AB664	2,636,587	0	0	0	0	0	0	2,636,587
Regional Measure One	3,792,854	0	0	0	0	0	0	3,792,854
Proposition B	62,698,855	0	0	0	0	0	0	62,698,855
SFMRIC	37,600	0	0	0	0	0	0	37,600
Transit Impact Development Fee (TIDF)	13,434,076	0	0	0	0	0	0	13,434,076
Off-Street Parking Fund	8,000,000	0	0	0	0	0	0	8,000,000
Totals:	372,676,717	19,165,196	19,165,196	19,165,196	19,165,196	11,346,930	11,484,469	472,168,900

COST FUNDING MATRIX

Sponsor: MUNI

Project: 14-Mission Reconstruction -Phase 1

Cost/Funding Item	FY 1992/93	FY 1993/94	FY 1994/95	FY 1995/96	FY 1996/97	FY 1997/98	Totals
COST							
Planning	0	106,000	0	0	0	0	106,000
Design	0	1,396,000	1,020,000	0	0	0	2,416,000
Procurement	0	5,000	15,000	15,000	0	0	35,000
Construction	0	5,888,000	4,246,000	4,299,583	0	0	14,433,583
Totals:	0	7,395,000	5,281,000	4,314,583	0	0	16,990,583
FUNDING							
Section 9	0	12,701,151	0	0	0	-1,015,963	11,685,188
Transit Capital Improvement (TCI)	0	2,198,287	0	0	0	0	2,198,287
AB664	0	578,988	0	0	0	0	578,988
Proposition B	398,000	0	0	0	0	0	398,000
SFMRIC	0	179,387	714	0	0	0	180,101
General Fund	0	1,383,162	0	0	0	0	1,383,162
Totals:	398,000	17,040,975	714	0	0	-1,015,963	16,423,726

Cost Funding Matrix

MUNI — **Facilities, Trolley Reconstruction**

Cost/Funding Item	FY Previous	FY 2002/03	FY 2003/04	FY 2004/05	FY 2005/06	FY 2006/07	FY 2007/08	Totals
COST								
Construction	15,073,788	3,985,205	4,212,140	4,424,758	4,650,000	4,875,000	5,125,000	42,345,891
Totals:	15,073,788	3,985,205	4,212,140	4,424,758	4,650,000	4,875,000	5,125,000	42,345,891
Funding								
Section 9	10,370,000	2,335,000	2,225,000	2,321,750	3,720,000	3,900,000	4,100,000	28,971,750
Surface Transportation (STP) Regional	0	800,000	1,065,000	1,133,250	0	0	0	2,998,250
Transit Capital Improvement (TCI)	1,855,250	291,875	278,125	290,219	465,000	487,500	512,500	4,180,469
Traffic System Management (TSM)	95,638	103,955	138,390	147,258	0	0	0	485,241
AB664	1,066,250	291,875	278,125	290,219	465,000	487,500	512,500	3,391,469
Proposition B	789,000	0	0	0	0	0	0	789,000
Totals:	14,176,138	3,822,705	3,984,640	4,182,696	4,650,000	4,875,000	5,125,000	40,816,179

Cost Funding [illegible]

MUNI

Facilities, Track Replacement

Cost/Funding Item	FY Previous	FY 2002/03	FY 2003/04	FY 2004/05	FY 2005/06	FY 2006/07	FY 2007/08	Totals
COST								
Construction	63,337,106	14,764,831	14,764,831	18,120,606	18,389,831	18,702,331	19,014,831	167,094,367
Totals:	63,337,106	14,764,831	14,764,831	18,120,606	18,389,831	18,702,331	19,014,831	167,094,367
FUNDING								
Fixed Guideway	0	0	0	7,500,000	7,500,000	7,500,000	7,500,000	30,000,000
Section 9	33,554,363	7,500,000	7,500,000	4,284,621	4,500,000	4,750,000	5,000,000	67,088,984
Surface Transportation (STP) Regional	9,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	3,000,000	27,000,000
Transit Capital Improvement (TCI)	6,894,983	1,937,500	1,937,500	1,473,078	1,473,078	1,500,000	1,531,250	16,747,389
Traffic System Management (TSM)	1,769,493	389,831	389,831	389,831	389,831	389,831	389,831	3,508,479
AB664	4,150,000	1,875,000	1,875,000	1,473,078	1,500,000	1,531,250	1,562,500	13,966,828
Proposition B	3,144,983	62,500	62,500	0	0	0	0	3,269,983
Totals:	57,913,822	14,764,831	14,764,831	18,120,608	18,362,909	18,671,081	18,983,581	161,581,663

COST FUNDING MATRIX

Sponsor: MUNI Project: Bicycle Racks on MUNI

Cost/Funding Item	FY 1996/97	Totals
COST		
Construction	104,964	104,964
Totals:	104,964	104,964
FUNDING		
AB434-Regional	104,964	104,964
Totals:	104,964	104,964

COST FUNDING MATRIX

Sponsor: MUNI Project: Transbay Terminal Replacement Facility

Cost/Funding Item	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
COST								
Environmental	500,000	500,000	500,000	500,000	0	0	0	2,000,000
Design	0	0	0	0	5,000,000	0	0	5,000,000
ROW Acquisition	0	0	0	0	10,000,000	120,000,000	6,000,000	136,000,000
Totals:	500,000	500,000	500,000	500,000	15,000,000	120,000,000	6,000,000	143,000,000
FUNDING								
Congestion Management/Air Quality (CMAQ)	0	0	0	0	13,000,000	0	0	13,000,000
SB60	0	0	0	0	30,000,000	0	0	30,000,000
SB226	0	0	0	0	80,000,000	0	0	80,000,000
Other Local	0	0	0	0	10,000,000	0	0	10,000,000
Totals:	0	0	0	0	133,000,000	0	0	133,000,000

Cost Funding Matrix

MUNI **Paratransit**

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Procurement	38,211,666	11,654,863	12,225,951	12,825,022	13,453,449	14,112,668	14,804,188	117,287,807
Totals:	38,211,666	11,654,863	12,225,951	12,825,022	13,453,449	14,112,668	14,804,188	117,287,807
FUNDING								
STA	3,373,898	575,000	601,000	628,000	659,400	692,370	726,989	7,256,657
BART Capital Reserves (Resolution 1876)	2,141,524	755,000	755,000	755,000	755,000	755,000	755,000	6,671,524
Proposition B	25,776,000	4,983,000	5,232,000	5,494,000	5,769,000	6,057,000	6,360,000	59,671,000
General Fund	23,504,690	5,338,000	5,551,000	5,773,000	6,055,050	6,350,853	6,661,046	59,233,639
Totals:	54,796,112	11,651,000	12,139,000	12,650,000	13,238,450	13,855,223	14,503,035	132,832,820

MUNI

Ext. to Muni Rte. 14 to Daly City

Cost/Funding Item	FY Previous	None	Totals
Cost			
Construction	0	0	0
Totals:	0	0	0
Funding			
Proposition B	0	0	0
Totals:	0	0	0

COST FUNDING MATRIX

Sponsor: MUNI Project: Reserve Fleet

Cost/Funding Item	FY 1993/94	FY 1994/95	Totals
COST			
Procurement	0	740,000	740,000
Construction	47,000	74,000	121,000
Totals:	47,000	814,000	861,000
FUNDING			
Proposition B	390,000	0	390,000
SFMTRIC	471,000	0	471,000
Totals:	861,000	0	861,000

COST FUNDING MATRIX

Sponsor: MUNI

Project: Vehicles - 3rd St./Mission Bay LRVS

Cost/Funding Item	FY 1999/00	FY 2000/01	FY 2001/02	Totals
COST				
Procurement	23,730,000	23,730,000	0	47,460,000
Totals:	23,730,000	23,730,000	0	47,460,000
FUNDING				
Proposition B	0	0	28,858,000	28,858,000
Totals:	0	0	28,858,000	28,858,000

Cost Funding Matrix

MUNI

Data Processing/Office Equip.

Cost/Funding Item	FY Previous	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
COST								
Procurement	3,746,333	201,000	211,250	221,250	233,000	245,000	256,125	5,113,958
Construction	450,000	0	0	0	0	0	0	450,000
Totals:	4,196,333	201,000	211,250	221,250	233,000	245,000	256,125	5,563,958
FUNDING								
Section 9	3,321,501	0	0	0	0	0	0	3,321,501
State and Local Transportation Partnership	373,000	201,000	211,250	221,250	233,000	245,000	256,125	1,740,625
AB664	556,291	0	0	0	0	0	0	556,291
SFMRIC	3,307	0	0	0	0	0	0	3,307
Totals:	4,254,099	201,000	211,250	221,250	233,000	245,000	256,125	5,621,724

Sponsor: MUNI

Project: Geary Blvd Study

Cost/Funding Item	FY Previous	None	Totals
Cost			
Planning	547,100	0	547,100
Totals:	547,100	0	547,100
Funding			
Proposition B	502,100	0	502,100
Totals:	502,100	0	502,100

COST FUNDING MATRIX

Sponsor: MUNI Project: Bayshore Corridor EIS

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Environmental	3,878,000	571,988	4,449,988
Totals:	3,878,000	571,988	4,449,988
FUNDING			
Proposition B	3,878,000	571,988	4,449,988
Totals:	3,878,000	571,988	4,449,988

COST FU ING MATRIX

Sponsor: MUNI Project: Vehicle Parts & Equip.

Cost/Funding Item	FY 1994/95	Totals
COST		
Procurement	1,500,000	1,500,000
Totals:	1,500,000	1,500,000
FUNDING		
Proposition B	1,500,000	1,500,000
Totals:	1,500,000	1,500,000

MUNI

Ferry Terminal Expansion

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	Totals
COST				
Construction	100,000	0	0	100,000
Totals:	100,000	0	0	100,000
FUNDING				
Bus	1,000,000	5,000,000	0	6,000,000
Surface Transportation (STP) Regional	600,000	0	0	600,000
Transportation Enhancement (TEA)	2,000,000	0	0	2,000,000
Emergency Relief (ER)	2,243,832	2,000,000	0	4,243,832
Prop 116	8,812,234	0	0	8,812,234
Proposition B	100,000	0	0	100,000
Off-Street Parking Fund	0	21,000,000	19,000,000	40,000,000
General Fund	335,000	0	0	335,000
Totals:	15,091,066	28,000,000	19,000,000	62,091,066

Cost Funding ... trix

MUNI

Trolley Coach Electrification

Cost/Funding Item	FY Previous	FY 1996/97	None	Totals
COST				
Environmental	240,267	0	0	240,267
Design	921,907	0	0	921,907
Construction	0	12,783,533	0	12,783,533
Totals:	1,162,174	12,783,533	0	13,945,707
Funding				
Bus	0	3,669,657	0	3,669,657
Transit Capital Improvement (TCI)	1,058,000	0	0	1,058,000
State and Local Transportation Partnership	0	600,000	0	600,000
AB434	500,000	500,000	0	1,000,000
Transit Impact Development Fee (TIDF)	430,000	0	0	430,000
General Fund	10,000	0	0	10,000
Totals:	1,998,000	4,769,657	0	6,767,657

Cost Funding Matrix

MUNI

Mission Bay Trolley Rerouting/Ext.

Cost/Funding Item	FY Previous	FY 1996/97	None	Totals
COST				
Design	0	2,900,000	0	2,900,000
ROW Acquisition	0	15,950,000	0	15,950,000
Procurement	0	10,150,000	0	10,150,000
Totals:	0	29,000,000	0	29,000,000
Funding				
General Fund	50,000	0	0	50,000
Totals:	50,000	0	0	50,000

MUNI

Geneva Modifications

Cost/Funding Item	FY Previous	FY 1996/97	None	Totals
COST				
Construction	0	100,000	0	100,000
Totals:	0	100,000	0	100,000
Funding				
Proposition B	100,000	0	0	100,000
Totals:	100,000	0	0	100,000

MUNI

Metro East LRV Facility

Cost/Funding Item	FY Previous	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
COST								
Planning	100,000	0	0	0	0	0	0	100,000
Design	900,000	0	0	0	0	0	0	900,000
Construction	0	0	0	17,866,666	17,866,666	17,866,667	0	53,599,999
Incremental O&M Costs	0	0	0	0	0	0	0	0
Totals:	1,000,000	0	0	17,866,666	17,866,666	17,866,667	0	54,599,999
FUNDING								
Surface Transportation (STP) Guarantee	0	0	0	3,456,086	6,669,000	6,431,251	5,978,006	22,534,343
Congestion Management/Air Quality (CMA	0	0	0	0	0	3,000,000	3,000,000	6,000,000
Transit Capital Improvement (TCI)	12,500,000	12,500,000	0	0	0	0	0	25,000,000
Traffic System Management (TSM)	0	0	0	0	0	389,831	389,831	779,662
Proposition B	14,450,000	9,020,000	0	0	0	0	0	23,470,000
SFMRIC	725,000	0	0	0	0	0	0	725,000
Transit Impact Development Fee (TIDF)	725,000	0	0	0	0	0	0	725,000
Totals:	28,400,000	21,520,000	0	3,456,086	6,669,000	9,821,082	9,367,837	79,234,005

MUNI

Presidio Facilities Redevel.

Cost/Funding Item	FY Previous	None	Totals
Cost			
Construction	0	0	0
Totals:	0	0	0
Funding			
Proposition B	0	0	0
Totals:	0	0	0

COST FUNDING MATRIX

Sponsor: MUNI Project: Bayshore Corridor Study

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Planning	790,000	0	790,000
Totals:	790,000	0	790,000
FUNDING			
Proposition B	440,000	0	440,000
Totals:	440,000	0	440,000

MUNI

Wayside Fare Collection Equip.

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	Totals
COST							
Procurement	0	29,429,977	0	0	0	0	29,429,977
Totals:	0	29,429,977	0	0	0	0	29,429,977
FUNDING							
Section 9	0	8,200,000	4,000,000	400,000	0	0	12,600,000
Congestion Management/Air Quality (CMA	4,008,000	4,117,000	0	0	0	0	8,125,000
Transit Capital Improvement (TCI)	0	0	500,000	500,000	770,000	0	1,770,000
Traffic System Management (TSM)	519,279	525,000	0	0	0	0	1,044,279
STA	0	1,055,000	0	0	0	0	1,055,000
Proposition B	0	0	500,000	500,000	770,000	0	1,770,000
Totals:	4,527,279	13,897,000	5,000,000	1,400,000	1,540,000	0	26,364,279

MUNI

Motor Coach Purchase

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	Totals
COST						
Planning	150,000	53,475,000	32,587,500	31,787,500	0	118,000,000
Totals:	150,000	53,475,000	32,587,500	31,787,500	0	118,000,000
FUNDING						
Section 9	0	55,000,000	10,000,000	15,000,000	8,000,000	88,000,000
AB664	478,035	2,662,500	2,730,929	1,938,737	0	7,810,201
Proposition B	250,000	20,609,465	14,750,000	2,261,263	0	37,870,728
Totals:	728,035	78,271,965	27,480,929	19,200,000	8,000,000	133,680,929

Cost Funding Matrix

MUNI — **Trolley Coach Purchase - Phase 2**

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	Totals
COST							
Planning	2,161,088	5,616,727	2,872,584	2,464,284	993,927	746,352	14,854,962
Environmental	0	31,500	3,167,461	346,000	0	0	3,544,961
Design	0	0	0	13,641,098	0	0	13,641,098
ROW Acquisition	0	500,000	500,000	0	0	0	1,000,000
Procurement	0	0	100,668,984	56,753,905	3,079,490	0	160,502,379
Construction	782,616	777,744	929,395	715,250	383,408	398,565	3,986,978
Contingency	0	0	2,522,000	5,044,000	2,503,622	0	10,069,622
Totals:	2,943,704	6,925,971	110,660,424	78,964,537	6,960,447	1,144,917	207,600,000
FUNDING							
Bus	19,700,496	3,518,791	3,669,657	3,669,657	3,669,657	3,518,790	37,747,048
Section 9	29,134,648	33,918,006	15,000,000	15,000,000	15,000,000	1,169,681	109,222,335
Surface Transportation (STP) Guarantee	0	4,800,000	0	0	0	0	4,800,000
Prop 108	1,146,219	0	0	0	0	0	1,146,219
Flexible Congestion Relief (FCR)	13,971,000	290,000	0	0	0	0	14,261,000
Transit Capital Improvement (TCI)	2,568,389	8,319,000	0	0	0	0	10,887,389
Petroleum Violation Escrow Account (PVE	400,000	0	0	0	0	0	400,000
AB664	2,242,638	1,579,625	1,660,000	1,660,000	1,660,000	0	8,802,263
Proposition B	4,817,000	7,972,217	0	0	0	0	12,789,217
SFMRIC	1,000,000	0	0	0	0	0	1,000,000
Transit Impact Development Fee (TIDF)	1,875,000	264,176	0	0	0	0	2,139,176
Totals:	76,855,390	60,661,815	20,329,657	20,329,657	20,329,657	4,688,471	203,194,647

Cost Funding Matrix

MUNI

Historic Rail Car Modifications

Cost/Funding Item	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
COST						
Procurement	100,000	100,000	100,000	100,000	100,000	500,000
Construction	600,000	600,000	600,000	600,000	600,000	3,000,000
Contingency	50,000	50,000	50,000	50,000	50,000	250,000
Totals:	750,000	750,000	750,000	750,000	750,000	3,750,000
FUNDING						
Section 9	537,600	564,480	592,704	622,339	653,456	2,970,579
Transit Capital Improvement (TCI)	67,200	70,560	74,088	77,792	81,682	371,322
Proposition B	67,200	70,560	74,088	77,792	81,682	371,322
Totals:	672,000	705,600	740,880	777,923	816,820	3,713,223

COST FUNDING MATRIX

Sponsor: MUNI Project: Fleet Plan

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Planning	250,000	0	250,000
Totals:	250,000	0	250,000
FUNDING			
Proposition B	250,000	0	250,000
Totals:	250,000	0	250,000

MUNI

Trolley Coach Purchase - Phase2/3

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Incremental O&M Costs	390,000	160,000	160,000	555,000	930,000	930,000	930,000	4,055,000
Totals:	390,000	160,000	160,000	555,000	930,000	930,000	930,000	4,055,000
FUNDING								
Prop. B Sales Tax - Incremental O&M	390,000	160,000	160,000	555,000	930,000	930,000	930,000	4,055,000
Totals:	390,000	160,000	160,000	555,000	930,000	930,000	930,000	4,055,000

COST FU[illegible]DING MATRIX

Sponsor: MUNI

Project: Trolley Coach Purchase - Phase I

Cost/Funding Item	FY Previous	FY 1993/94	FY 1994/95	FY 1995/96	Totals
COST					
Planning	0	1,000,000	0	0	1,000,000
Design	0	1,100,000	0	0	1,100,000
Procurement	0	38,000,000	1,200,000	800,000	40,000,000
Contingency	0	0	312,749	0	312,749
Totals:	0	40,100,000	1,512,749	800,000	42,412,749
FUNDING					
Bus	0	18,411,750	0	0	18,411,750
Section 9	0	14,404,413	0	0	14,404,413
Transit Capital Improvement (TCI)	0	12,359,980	0	0	12,359,980
STA	0	51,728	0	0	51,728
Proposition B	9,621,480	0	0	0	9,621,480
SFMRIC	0	1,700,000	0	0	1,700,000
Totals:	9,621,480	46,927,871	0	0	56,549,351

COST FUNDING MATRIX

Sponsor: MUNI Project: Facilities Master Plan

Cost/Funding Item	FY 1992/93	FY 1993/94	FY 1994/95	FY 1995/96	Totals
COST					
Planning	0	0	50,000	350,000	400,000
Totals:	0	0	50,000	350,000	400,000
FUNDING					
Proposition B	400,000	0	0	0	400,000
Totals:	400,000	0	0	0	400,000

COST F. .DING MATRIX

Sponsor: MUNI

Project: MAN Motor Coach Reh. (100)

Cost/Funding Item	FY Previous	FY 1997/98	Totals
COST			
Planning	0	2,062,000	2,062,000
Environmental	0	1,846,000	1,846,000
Design	0	321,000	321,000
ROW Acquisition	0	1,258,000	1,258,000
Procurement	0	2,751,000	2,751,000
Totals:	0	8,238,000	8,238,000
FUNDING			
Section 9	3,329,793	0	3,329,793
Transit Capital Improvement (TCI)	1,195,467	0	1,195,467
Proposition B	1,816,467	0	1,816,467
SFMRIC	794,979	0	794,979
Totals:	7,136,706	0	7,136,706

COST FUNDING MATRIX

Sponsor: NPS Project: Presidio Shuttle Service

Cost/Funding Item	FY 1997/98	Totals
COST		
Operating	375,987	375,987
Totals:	375,987	375,987
FUNDING		
AB434	150,000	150,000
AB434-Regional	113,191	113,191
Other Local	112,796	112,796
Totals:	375,987	375,987

COST FUNDING MATRIX

Sponsor: PORT

Project: Breakwater Construction South of Pier 2

Cost/Funding Item	FY 1993/94	FY 1994/95	FY 1995/96	FY 1996/97	FY 1997/98	Totals
COST						
Design	977,388	0	0	0	0	977,388
Construction	0	7,971,329	2,391,626	2,400,000	1,000,000	13,762,955
Totals:	977,388	7,971,329	2,391,626	2,400,000	1,000,000	14,740,343
FUNDING						
Section 3	0	416,533	0	0	0	416,533
Surface Transportation (STP) Guarantee	0	0	0	0	1,000,000	1,000,000
Transportation Enhancement (TEA)	0	0	850,000	0	0	850,000
Interstate Transfer Concept Program (Title 23)	0	0	1,487,500	0	0	1,487,500
Ferry Boat Discretionary Program (Sec 1064)	0	0	0	2,400,000	0	2,400,000
Prop 116	977,388	7,554,796	0	0	0	8,532,184
Other Local	0	0	54,126	0	0	54,126
Totals:	977,388	7,971,329	2,391,626	2,400,000	1,000,000	14,740,343

Sponsor: PORT Project: Rehab. of track, ballast & drain systems in Tunnel

Cost/Funding Item	FY 1992/93	Totals
COST		
Construction	2,800,000	2,800,000
Totals:	2,800,000	2,800,000
FUNDING		
Surface Transportation (STP) Guarantee	2,478,000	2,478,000
Other Local	322,000	322,000
Totals:	2,800,000	2,800,000

COST FUNDING MATRIX

Sponsor: Public Defender Project: Teleconferencing

Cost/Funding Item	FY 1994/95	Totals
COST		
Construction	150,000	150,000
Totals:	150,000	150,000
FUNDING		
AB434	150,000	150,000
Totals:	150,000	150,000

COST FUNDING MATRIX

Sponsor: SF General Hospital Project: Ridematching Service

Cost/Funding Item	FY 1993/94	Totals
COST		
Equipment	5,000	5,000
Operating	15,000	15,000
Totals:	20,000	20,000
FUNDING		
AB434	20,000	20,000
Totals:	20,000	20,000

COST FUNDING MATRIX

Sponsor: SFCTA Project: Countywide Transportation Plan

Cost/Funding Item	FY 1995/96	FY 1996/97	FY 1997/98	Totals	
COST					
Planning	0	0	750,500	750,500	
Totals:	0	0	750,500	750,500	
FUNDING					
Surface Transportation (STP) Guarantee	362,000	183,000	0	545,000	
Other Local	0	0	200,000	200,000	(Parking Revenues - Embarcadero Parcels)
Prop. B Match	0	0	5,500	5,500	
Totals:	362,000	183,000	205,500	750,500	

COST FUNDING MATRIX

Sponsor: SFO Project: Millbrae Caltrain - SFO Shuttle

Cost/Funding Item	FY 1997/98	Totals
OST		
Operating	464,000	464,000
Totals:	464,000	464,000
UNDING		
AB434-Regional	46,400	46,400
Other Local	417,600	417,600
Totals:	464,000	464,000

COST FUNDING MATRIX

Sponsor: SFO

Project: CNG Vehicle Replacement Program

Cost/Funding Item	FY 1997/98	Totals
COST		
Equipment	147,000	147,000
Totals:	147,000	147,000
FUNDING		
AB434-Regional	147,000	147,000
Totals:	147,000	147,000

COST FUNDING MATRIX

Sponsor: SFO

Project: SFO - Calftrain Shuttle Project

Cost/Funding Item	FY 1992/93	Totals
COST		
Operating	60,000	60,000
Totals:	60,000	60,000
FUNDING		
AB434-Regional	60,000	60,000
Totals:	60,000	60,000

COST FUND...G MATRIX

Sponsor: SFSU Project: Electric Shuttle Service

Cost/Funding Item	FY 1994/95	Totals
COST		
Equipment	143,000	143,000
Totals:	143,000	143,000
FUNDING		
AB434	143,000	143,000
Totals:	143,000	143,000

COST FUNDING MATRIX

Sponsor: SFSU

Project: Bike to School Program

Cost/Funding Item	FY 1995/96	Totals
COST		
Construction	79,255	79,255
Totals:	79,255	79,255
UNDING		
AB434	79,255	79,255
Totals:	79,255	79,255

COST FUNDING MATRIX

Sponsor: UCSF

Project: UCSF Shuttle - 24th St. BART/SF General Hospital

Cost/Funding Item	FY 1995/96	Totals
COST		
Operating	52,640	52,640
Totals:	52,640	52,640
FUNDING		
AB434-Regional	52,640	52,640
Totals:	52,640	52,640

1998 STIP - PROPOSED PROJECTS

COST FUNDING MATRIX

Sponsor: BART Project: Advanced Automatic Train Control

Cost/Funding Item	FY 1998/99	Totals	
COST			
Construction	52,100,000	52,100,000	
Totals:	52,100,000	52,100,000	
FUNDING			
Regional Improvement Funds (RIF)	47,100,000	47,100,000	SF's share is $5 million
Other Local	5,000,000	5,000,000	
Totals:	52,100,000	52,100,000	

COST FUNDING MATRIX

Sponsor: DPW

Project: King Street Design & Construction

Cost/Funding Item	FY 1998/99	Totals
COST		
Design	1,045,216	1,045,216
Construction	4,524,746	4,524,746
Contingency	452,475	452,475
Totals:	6,022,437	6,022,437
FUNDING		
Surface Transportation (STP) Regional	4,044,000	4,044,000
Interstate Transfer Concept Program (Title 23)	4,022,436	4,022,436
Totals:	8,066,436	8,066,436

COST FUNDING MATRIX

Sponsor: GGT Project: Replacement Ferry

Cost/Funding Item	FY 1999/00	Totals
COST		
Procurement	8,312,000	8,312,000
Totals:	8,312,000	8,312,000
FUNDING		
Section 9	6,649,600	6,649,600
Surface Transportation (STP) Regional	831,200	831,200
Totals:	7,480,800	7,480,800

COST FUNDING MATRIX

Sponsor: JPB

Project: Caltrain Centralized Control System & Track Improv

Cost/Funding Item	FY 1998/99	Totals
COST		
Construction	52,000,000	52,000,000
Totals:	52,000,000	52,000,000
FUNDING		
Regional Improvement Funds (RIF)	41,230,000	41,230,000
Other Local	5,000,000	5,000,000
Totals:	46,230,000	46,230,000

Cost Funding Matrix

MUNI — **Central Control Replacement**

Cost/Funding Item	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST							
Planning	100,000	100,000	766,102	33,898	0	0	1,000,000
Design	0	0	0	1,000,000	1,000,000	0	2,000,000
Construction	0	0	0	0	9,000,000	9,000,000	18,000,000
Contingency	0	0	0	0	0	2,000,000	2,000,000
Totals:	**100,000**	**100,000**	**766,102**	**1,033,898**	**10,000,000**	**11,000,000**	**23,000,000**
FUNDING							
Surface Transportation (STP) Regional	0	0	0	1,800,000	3,750,000	3,900,000	9,450,000
Regional Improvement Funds (RIF)	0	1,000,000	1,000,000	0	0	0	2,000,000
Transit Capital Improvement (TCI)	0	0	0	0	5,677,966	0	5,677,966
Traffic System Management (TSM)	0	0	0	233,898	487,288	506,780	1,227,966
Proposition B	0	0	766,102	0	5,677,966	0	6,444,068
SFMRIC	75,000	125,000	0	0	0	0	200,000
Totals:	**75,000**	**1,125,000**	**1,766,102**	**2,033,898**	**15,593,220**	**4,406,780**	**25,000,000**

Cost Funding Matrix

MUNI

Track Replacement

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	Totals
COST					
Construction	17,212,271	9,659,831	0	0	26,872,102
Totals:	17,212,271	9,659,831	0	0	26,872,102
FUNDING					
Section 9	8,315,950	5,545,000	0	0	13,860,950
Surface Transportation (STP) Regional	1,770,000	3,000,000	0	0	4,770,000
Prop 116	500,000	0	0	0	500,000
Regional Improvement Funds (RIF)	0	0	3,696,068	6,567,932	10,264,000
Flexible Congestion Relief (FCR)	3,000,000	0	0	0	3,000,000
Traffic System Management (TSM)	229,322	389,831	0	0	619,153
Proposition B	2,500,000	0	0	0	2,500,000
SFMRIC	500,000	725,000	0	0	1,225,000
General Fund	397,000	0	0	0	397,000
Totals:	17,212,272	9,659,831	3,696,068	6,567,932	37,136,103

Sponsor: MUNI Project: Capital Construction Fund

Cost/Funding Item	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	FY 2003/04	Totals
COST							
Design	0	24,643,750	24,643,750	16,429,166	16,429,166	16,429,167	98,574,999
ROW Acquisition	0	6,557,500	6,557,500	0	0	0	13,115,000
Procurement	0	0	25,833,333	25,833,333	25,833,334	0	77,500,000
Construction	0	0	0	103,808,666	103,808,666	103,808,667	311,425,999
Contingency	0	12,400,000	22,800,000	49,139,000	49,139,000	49,141,000	182,619,000
Totals:	0	43,601,250	79,834,583	195,210,165	195,210,166	169,378,834	683,234,998
FUNDING							
Regional Improvement Funds (RIF)	0	0	0	0	13,945,573	11,054,427	25,000,000
State and Local Transportation Partnership Pr	3,000,000	10,000,000	10,000,000	10,000,000	5,000,000	0	38,000,000
Proposition B	0	68,860,000	134,495,000	65,305,000	60,500,000	60,470,000	389,630,000
Totals:	3,000,000	78,860,000	144,495,000	75,305,000	79,445,573	71,524,427	452,630,000

COST FUNDING MATRIX

Sponsor: MUNI

Project: Islais Creek O&M Facilities

Cost/Funding Item	FY 1995/96	FY 1996/97	FY 1997/98	FY 1998/99	Totals
COST					
ROW Acquisition	4,761,000	0	260,000	0	5,021,000
Procurement	0	0	139,527	0	139,527
Construction	310,274	0	700,000	0	1,010,274
Contingency	0	0	0	7,000,000	7,000,000
Totals:	5,071,274	0	1,099,527	7,000,000	13,170,801
FUNDING					
Section 9	2,563,881	0	1,600,000	0	4,163,881
State and Local Transportation Partnership Pr	0	0	0	700,000	700,000
AB664	271,000	0	0	0	271,000
Proposition B	1,000,000	0	0	7,000,000	8,000,000
SFMRIC	5,865,283	0	1,045,000	0	6,910,283
Transit Impact Development Fee (TIDF)	1,240,000	0	0	0	1,240,000
Off-Street Parking Fund	5,572	0	0	0	5,572
Totals:	10,945,736	0	2,645,000	7,700,000	21,290,736

Cost Funding Matrix

MUNI

Cable Car Reconstruction (10)

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Design	50,000	0	0	0	0	0	0	50,000
ROW Acquisition	325,000	125,000	125,000	125,000	150,000	150,000	150,000	1,150,000
Procurement	1,550,000	800,000	850,000	900,000	950,000	1,000,000	1,050,000	7,100,000
Construction	340,000	170,000	170,000	170,000	170,000	170,000	170,000	1,360,000
Totals:	**2,265,000**	**1,095,000**	**1,145,000**	**1,195,000**	**1,270,000**	**1,320,000**	**1,370,000**	**9,660,000**
FUNDING								
Section 9	2,295,000	624,000	656,000	690,400	724,800	760,800	799,000	6,550,000
Surface Transportation (STP) Regional	0	0	223,252	84,965	88,505	96,929	100,985	594,636
Transit Capital Improvement (TCI)	125,250	0	225,000	86,300	90,600	100,000	105,000	732,150
AB664	216,125	225,000	0	86,300	90,600	100,000	105,000	823,025
Proposition B	0	177,500	0	0	0	0	0	177,500
SFMRIC	90,375	0	0	0	0	0	0	90,375
Totals:	**2,726,750**	**1,026,500**	**1,104,252**	**947,965**	**994,505**	**1,057,729**	**1,109,985**	**8,967,686**

Cost Funding Matrix

MUNI

Trolley Overhead Rehab.

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Environmental	124,847	0	0	0	0	0	0	124,847
Construction	0	12,664,602	0	0	0	0	0	12,664,602
Totals:	**124,847**	**12,664,602**	**0**	**0**	**0**	**0**	**0**	**12,789,449**
FUNDING								
Section 9	3,935,550	4,472,000	0	0	0	0	0	8,407,550
Surface Transportation (STP) Regional	876,000	1,736,000	782,872	332,893	346,792	361,667	280,715	4,716,939
Congestion Management/Air Quality (CMA	540,000	0	0	0	0	0	0	540,000
Prop 108	12,347	0	0	0	0	0	0	12,347
Traffic System Management (TSM)	183,458	225,582	0	0	0	0	0	409,040
Proposition B	529,000	0	0	0	0	0	0	529,000
SFMRIC	471,000	652,178	0	0	0	0	0	1,123,178
General Fund	134,472	0	0	0	0	0	0	134,472
Totals:	**6,681,827**	**7,085,760**	**782,872**	**332,893**	**346,792**	**361,667**	**280,715**	**15,872,526**

Cost Funding Matrix

MUNI — **Facilities Preservation Projects**

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Construction	0	15,260,000	6,975,371	6,975,371	6,975,371	6,975,372	0	43,161,485
Totals:	0	15,260,000	6,975,371	6,975,371	6,975,371	6,975,372	0	43,161,485
FUNDING								
Surface Transportation (STP) Regional	0	0	1,339,515	721,166	715,564	710,006	0	3,486,251
Congestion Management/Air Quality (CMA	0	675,092	0	0	0	0	0	675,092
Transit Capital Improvement (TCI)	0	500,000	0	0	0	0	0	500,000
Environmental Enhancement and Mitigatio	0	0	1,350,000	732,500	732,500	732,500	0	3,547,500
Proposition B	0	9,552,500	5,512,500	6,592,500	0	0	0	21,657,500
SFMRIC	0	146,200	0	0	0	0	0	146,200
Totals:	0	10,873,792	8,202,015	8,046,166	1,448,064	1,442,506	0	30,012,543

COST FUNDING MATRIX

Sponsor: MUNI

Project: Woods O&M Facilities

Cost/Funding Item	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	Totals
COST					
Design	0	1,500,000	0	0	1,500,000
Construction	0	0	7,500,000	7,500,000	15,000,000
Totals:	0	1,500,000	7,500,000	7,500,000	16,500,000
FUNDING					
Regional Improvement Funds (RIF)	2,579,806	1,378,337	0	0	3,958,143
State and Local Transportation Partnership Pr	0	0	1,300,000	0	1,300,000
Proposition B	0	13,000,000	0	0	13,000,000
Totals:	2,579,806	14,378,337	1,300,000	0	18,258,143

Cost Funding Matrix

MUNI — **TPS- Bus Stop Treatments**

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 1999/00	FY 2000/01	FY 2001/02	FY 2002/03	Totals
COST								
Planning	8,783	18,846	12,429	13,107	13,785	14,463	15,141	96,554
Design	43,915	94,229	62,147	65,537	68,927	72,316	75,706	482,777
Construction	254,705	546,531	360,452	380,113	399,774	419,435	439,096	2,800,106
Contingency	131,744	282,688	186,441	196,610	206,780	216,949	227,119	1,448,331
Totals:	439,147	942,294	621,469	655,367	689,266	723,163	757,062	4,827,768
FUNDING								
Surface Transportation (STP) Regional	0	0	545,728	571,025	595,897	620,347	644,382	2,977,379
Congestion Management/Air Quality (CMA	279,000	558,000	0	0	0	0	0	837,000
Traffic System Management (TSM)	36,147	72,294	550,000	580,000	610,000	640,000	670,000	3,158,441
Proposition B	124,000	312,000	71,469	75,367	79,266	83,164	87,062	832,328
Totals:	439,147	942,294	1,167,197	1,226,392	1,285,163	1,343,511	1,401,444	7,805,148

Cost Funding Matrix

Cable Car System Rehabilitation MUNI

Cost/Funding Item	FY Previous	FY 1997/98	FY 1998/99	FY 2001/02	FY 2002/03	FY 2003/04	FY 2004/05	Totals
Design	200,000	0	200,000	200,000	200,000	200,000	0	1,000,000
Construction	0	1,000,000	0	0	311,000	1,000,000	1,000,000	3,311,000
Totals:	**200,000**	**1,000,000**	**200,000**	**200,000**	**511,000**	**1,200,000**	**1,000,000**	**4,311,000**
Surface Transportation (STP) Guarantee	637,500	0	0	0	0	0	0	637,500
Surface Transportation (STP) Regional	0	0	992,233	0	0	0	0	992,233
SFMRIC	83,375	0	0	0	0	0	0	83,375
Other Local	2,590,309	0	0	0	0	0	0	2,590,309
Totals:	**3,311,184**	**0**	**992,233**	**0**	**0**	**0**	**0**	**4,303,417**

COST FUNDING MATRIX

Sponsor: GGT Project: Downtown Bus Storage Lot

Cost/Funding Item	FY 1997/98	Totals	
COST			
ROW Acquisition	13,116,000	13,116,000	
Totals:	13,116,000	13,116,000	
FUNDING			
Surface Transportation (STP) Regional	2,999,000	2,999,000	SF's share: $839,000; Marin's share: $1,913,000; Sonoma's share: $247,000
Other Local	10,117,000	10,117,000	
Totals:	13,116,000	13,116,000	

APPENDIX IX

Transportation Analysis Database (TAD) - Detailed Description

THIS PAGE
INTENTIONALLY LEFT BLANK

Prepared for

San Francisco County Transportation Authority

August 1996

Final Technical Memorandum

Transportation Analysis Database User's Guide

Prepared by

Cambridge Systematics, Inc.

Final Technical Memorandum

Transportation Analysis Database User's Guide

Prepared for

San Francisco County Transportation Authority

Prepared by

Cambridge Systematics, Inc.
1300 Clay Street, Suite 1010
Oakland, CA 94612
(510) 873-8700

August 1994

Table of Contents

1.0 Introduction 1-1

2.0 Software and Hardware 2-1
2.1 Hardware 2-1
2.2 Software 2-1

3.0 Spatial Data 3-1
3.1 Source 3-1
3.2 File Locations 3-2
3.3 Attribute Table Contents 3-3

4.0 Tabular Data 4-1
4.1 ABAG Data 4-1
4.2 Census Transportation Planning Package 4-2
4.3 CMP Network Monitoring 4-3
4.4 Muni Data 4-3
4.5 MTC Regional Model Outputs 4-4
4.6 Citywide Travel Behavior Survey (CTBS) 4-5
4.7 BART Passenger Profile Survey 4-5
4.8 Doyle Drive Intermodal Study Surveys 4-6
4.9 Census Summary Tape File 3 4-6

5.0 Overview of ArcView and Projects 5-1
5.1 *ArcView* Projects 5-1
5.2 Spatial Analysis and Database Capabilities 5-1

Appendices (Bound Separately)
A. TIGER Documentation A-1
B. ABAG Projections 94 ..... B-1
C. Urban CTPP Data from MTC C-1
D. Information on MTC Model Outputs (Trip Tables) D-1
E. 1992 Citywide Travel Behavior Survey E-1
F. BART Passenger Profile Survey F-1
G. Doyle Drive Surveys G-1
H. Census Summary Tape File 3 ..... H-1

1.0 Introduction

1.0 Introduction

The purpose of this User's Guide is to document the Transportation Analysis Database (TAD) developed for the San Francisco County Transportation Authority's Congestion Management Program (CMP). Procedures for CMP-related analyses may be found in the *Transportation Analysis Guidelines*. This document contains practical information for finding and using files, using different data sources, as well as basic information on the use of the software. This document should be updated when new spatial and geographic data is acquired for the TAD or when the TAD is otherwise upgraded (new software, scripts, new hardware platform, etc.).

2.0 Software and Hardware

2.0 Software and Hardware

2.1 Hardware

The TAD is currently running on a PC workstation using the DOS operating system with Windows 3.1. The system includes a fax modem and CD ROM drive. A color inkjet printer and a black and white laser printer are available for hard copy output.

2.2 Software

ArcView 2.1

The core software used for the TAD is *ArcView*, version 2.1. *ArcView*, a geographic information system software package, is published by Environmental Systems Research Institute, Inc. *ArcView* is used in the TAD for mapping and spatial analysis. *ArcView* also stores relationships among data tables, spatial coverages, charts, scripts, and maps as projects. *ArcView* project files have an *.apr extension.

Other Software

While *ArcView* offers substantial database manipulation and querying capabilities, the user should perform more substantial database creation or editing tasks with specialized database software. *ArcView* can accept tabular data in several file formats including dBase (*.dbf extension) and delimited text (*.txt).

3.0 Spatial Data

3.0 Spatial Data

Spatial data in the TAD is analogous to paper maps. Spatial data may describe legal, political, or statistical geographic boundaries; natural features; transportation facilities; or other types of features. A particular collection of spatial data is also referred to as a "coverage".

Coverages were created for both the nine-county Bay Area and for San Francisco County. The Bay Area coverages include spatial data for all nine counties, are fairly large, and are suited for analyses that reach outside San Francisco county to a regional level. The San Francisco County coverages contain only data for San Francisco.

3.1 Source

Most of the spatial data in the TAD was drawn from the TIGER/Line files developed by the U.S. Census Bureau. The TIGER files were first converted to spatial coverages using *ArcInfo* (a separate product published by ESRI) and then edited and converted to *ArcView*'s native spatial data format ("shapefiles")[1]. Postal zip code shapefiles were derived from sample data included with *ArcView*.

In their unedited form, the coverages and shapefiles derived from the TIGER data include data for three basic feature classes in an area:

- Label points;
- Lines (arcs), and
- Polygons.

Different subclasses of features (e.g. roads, natural features, census statistical boundaries) initially appear undifferentiated within the coverages. To convert the coverages and shapefiles into a more useful format, it was first necessary to extract relevant data from the TIGER-based spatial coverages, save the extracted data as a shapefile, perform edits as necessary, and apply additional formatting (editing legends, etc.). For example, all data records representing CMP roadway segments were extracted from a raw arc coverage, saved as a separate shapefile, edited, and formatted to draw primary and secondary roadways in different colors. This process has been applied to the San Francisco County coverages and, to a lesser extent, to the Bay Area coverages.

---

[1] ArcView software can read several spatial file formats including ArcInfo coverages and ArcView shapefiles. However, it is preferable to work with shapefiles since they can be edited by the user and are redrawn on the screen more quickly.

The most important field in the TIGER files from the TAD user's point of view is the Census Feature Class Code (CFCC). CFCCs are alphanumeric codes that describe what type of feature a particular TIGER data record represents. For example, code "A20" signifies a segment of a primary road without limited access. Code "H01" signifies the shoreline of a perennial water feature. These codes have been carried over from the TIGER files into the coverage and shapefile "attribute tables" and are the key to a variety of editing and selecting capabilities. For example, to create a shapefile containing all railroad main tracks in the Bay Area, the user would select and save all data records with a CFCC of "B10" from the larger file containing all arcs. A complete list of CFCCs may be found in Appendix A, along with additional relevant TIGER documentation.

3.2 File Locations

ArcView Shapefiles

ArcView shapefiles are stored under C:\TAD_DATA\SHPFILES[1]. Note that while only certain file types (*.shp) are visible from within *ArcView*, spatial data is stored in several different types of files (*.shp, *.dbf, and *.shx) which will be visible in the Windows File Manager. It is important not to move or destroy any files under the TAD_DATA\SHPFILES directory without knowing which coverages the files are related to.

- ArcView shapefiles for San Francisco county are stored under C:\TAD_DATA\SHPFILES\SFCOUNTY. Table 3.1 lists the shapefiles created for San Francisco County.

- Transit route shapefiles for San Francisco County are stored under an additional subdirectory C:\TAD_DATA\SHPFILES\SFCOUNTY\TRANSIT. Shapefiles were created to represent each Muni Metro route as well as a sample of the motorcoach and trolley coach routes. The transit route shapefile names are self explanatory.

- Bay Area shapefiles are stored under C:\TAD_DATA\SHPFILES\BAY_AREA. The shapefiles covering the entire Bay Area region are listed in Table 3.2.

ArcInfo Coverages

The original *ArcInfo* coverages derived from the TIGER files are stored on a Compact Disk (CD) and may be used as a backup. Note that these coverages do not include edits made over the course of developing the TAD.

---

[1] A backup tape of this subdirectory has been made.

San Francisco County Coverages

The *ArcInfo* coverages for San Francisco County are stored under the SF subdirectory on the CD and under C:\COVERAGE\SFCOUNTY. There are two additional subdirectories. The first is called INFO and contains files used internally by the software but not directly accessed by the user. From within *ArcView*, the coverages are accessible through the second subdirectory, T060751[3] (access the subdirectory by checking on the associated icon, not the subdirectory name). San Francisco coverages listed in Table 3.3 may be accessed by clicking on the subdirectory folder icon (filenames are shown as they appear under ArcView, not the File Manager).

Bay Area Coverages

The *ArcInfo* coverages for the Bay Area are stored under the BAYAREA subdirectory on the CD. The file names and contents are analogous to those described for San Francisco County.

3.3 Attribute Table Contents

Each *ArcView* shapefile has an attribute table associated with it that may be edited by the user. Attribute tables have a "dbf" file extension when viewed from the File Manager. All shapefiles have certain attribute table fields in common. These are artifacts from the process of building the coverages from TIGER files. The first 10 fields in arc shapefiles and the first 5 fields in polygon shapefiles are generally not needed by the user and may be hidden, if desired. Tables 3.4 and 3.5 list and describe common attribute table fields for arc and polygon-type features, respectively.

Tables 3.6 and 3.7 list and describe the unique attribute table fields in San Francisco and Bay Area shapefiles. These fields were either derived from the TIGER data or added subsequently.

[3]The subdirectory name is based on San Francisco County's Federal Information Processing Standard (FIPS) code and is an artifact of the TIGER conversion process.

Table 3.1 ArcView Shapefiles for San Francisco County

Shapefile	Contents
blkgrps.shp	1990 census blockgroup polygons
blocks.shp	1990 census block polygons
cmp.shp	CMP roadway segments (based on the list of segments published in the 1993 CMP)
cmp2.shp	Second version of CMP network with individual roadway segments merged to correspond to CMP monitoring segments (this process is partially complete)
county.shp	San Francisco County boundary polygon
localrds.shp	Local roadway segments (CFCC of "A4*")
psroads.shp	Local roadway segments (CFCCs of "A1*, A2*, A3*, and A63")
roadways.shp	All records describing roadway features derived from the arc coverage (This shapefile has been edited but still needs refinement.)
sftaz.shp	Traffic Analysis Zone boundary polygons corresponding to MTC's regional travel model 1099-zone system (includes MTC Superdistrict correspondence)
sfzip.shp	Postal zip code polygons
shoreln.shp	Outline of perennial water features (CFCC = "H01") including the shoreline of the Bay and Pacific Ocean (derived from the arc coverage)
tracts.shp	1990 census tract polygons

Notes: Filenames are shown as they appear in *ArcView*.
Transit shapefiles are stored under a separate subdirectory.

Table 3.2 ArcView Shapefiles for the Bay Area

Files	Contents
ba-count.shp	County boundary polygons
bahydro.shp	Outlines of major water features (CFCC = H00, H01, H5*)
baroads.shp	All records describing primary and secondary roadway features in the Bay Area derived from the arc coverage (Will require further editing.)
barroads.shp	All records describing rail lines in the Bay Area (derived from the arc coverage, CFCC = "B*")
bazip.shp	Zip code polygons for the Bay Area (derived from ArcView sample data for California.)
blkgrp.shp	1990 Census blockgroup polygons
blocks.shp	1990 Census block polygons
mcd.shp	Minor Civil Division boundary polygons
place.shp	Census-defined Place boundary polygons
poly.shp	All TIGER polygons for the Bay Area
sfarc.shp	All TIGER arcs for the Bay Area
state.shp	State boundary polygon
submcd.shp	Sub-Minor Civil Division boundary polygons
tracts.shp	1990 census tract polygons

Note: Filenames are shown as they appear in ArcView. Check the theme properties of views to see which shapefile is being used.

Table 3.3 Standard ArcInfo Coverage Names and Contents

File	Contents
region.blkgrp	1990 census block group polygons
region.blocks	1990 census block polygons
region.county	County boundary polygon
region.mcd	Minor Civil Division boundary polygons (Note: This coverage, like state, sub-mcd, and place consists of a single polygon since all of San Francisco County is within the same state.)
region.place	Census-defined Place boundary polygons
region.state	State boundary pologon
region.submcd	Sub-Minor Civil Division boundary polygons
region.tracts	1990 census tract polygons
polygon	All TIGER polygons for the county
arc	All TIGER arcs for the county
labelpoint	Label points for all arcs and polygons in San Francisco County (This file is used by the software when labeling features and is not directly accessed by the user.)

Note: Filenames are shown as they appear in ArcView. These files can be found on a CD.

Table 3.4 Common Attribute Table Fields for Arc Features

Attribute Table Field Name	Contents/Purpose
shape	Shape (This should read "arc" and must be visible for certain editing functions.)
fnode	From node
tnode	To node
lpoly	Left adjacent polygon
rpoly	Right adjacent polygon
length	Length
t0xxxxx_	Record identification
t0xxxxx_id	"
recnum	"
rt	Record type
fdpre	Feature direction prefix (e.g. "N", signifying "North" as in "North Main Avenue")
fname	Feature name (e.g. street name)
ftype	Feature type (e.g. "st." or "ave.")
fdsuf	Feature direction suffix (e.g. "SW", as in "Massachusetts Ave. SW"
cfcc	Census Feature Class Code
leftadd1	Left (when traveling from fnode to tnode) address range (applicable to street features)
leftadd2	Alternate left address range
rgtadd1	Right address range
rgtadd2	Alternate right address range

Table 3.5 Common Attribute Table Fields for Polygon Features

Attribute Table Field Name	Contents/Purpose
1. shape	Shape (Should read "poly" and must be visible for certain editing functions.)
2. area	Area
3. perimeter	Perimeter
4. blocks	Record identification (The name of this field will vary according to the feature being described. For a polygon describing county boundaries, for example, the name would be county.)
5. blocks_id	Record identification (The name of this field will vary according to the feature being described. For a polygon describing county boundaries, for example, the name would be county_id.)

Table 3.6 Unique Attribute Table Fields San Francisco Shapefiles

Shapefile	Attribute Table Field	Type	Contents/Purpose
blkgrps.shp	ct_tr_bg	S	From left to right (no. of characters): county code (3), census tract with 2 implied decimals (5), block group (1).
blocks.shp	ct_tr_blks	S	From left to right (no of characters): county code (3), census tract with 2 implied decimals (5), block number (3) - first digit of block number is the block group.
cmp.shp	display	N	Field for user-defined application
	LOS_PM95	N	Field added to hold 1995 monitoring data for each CMP network segment.
roadways.shp	cmpstatus	N	Signifies whether segment is part of CMP network; 1=yes; 0=no
	display, display2	N	Fields for user-defined application
sftaz.shp	sftaznew	N	MTC 1099-system Traffic Analysis Zone
	superdist	N	MTC Superdistrict
sfzip.shp	display, display2	N	Fields for user-defined application
tracts.shp	ctbna	N	Census tract with two implied decimals

Note: N signifies a numeric field, S signifies a string field.

Table 3.7 Unique Attribute Table Fields Bay Area Shapefiles

Shapefile	Attribute Table Field	Type	Contents/Purpose
blkgrp.shp	ct_tr_bg	S	From left to right (no. of characters): county code (3), census tract with 2 implied decimals (5), block group (1).
blocks.shp	ct_tr_blks	S	From left to right (no of characters): county code (3), census tract with 2 implied decimals (5), block number (3) - first digit of block number is the block group.
tracts.shp	ctbna	N	Census tract/ two implied decimals are the optional census tract extension.
place.shp	fpl	N	Place code
bazip.shp	state_name	S	Name of state
	cnty_name	S	Name of county
	fips	S	Concatenated state and county FIPS codes
	zip_type	S	Type of service (e.g. "street delivery")
	name_type	S	Type of delivery zone described (e.g. "main post office')
	name	S	Name of delivery zone
	zip	N	5-digit zip code
mcd.shp	fmcd	N	Minor civil division code

Note: N signifies a numeric field. S signifies a string field.

4.0 Tabular Data

4.0 Tabular Data

Tabular data can be any type of data that is contained in a spreadsheet or database format. The TAD and *ArcView* can be used to access tabular data in three formats:

- dBase (*.dbf);
- INFO (ArcView's native database format); and
- Comma delimited text.

Tabular data may be linked or joined to spatial coverages based upon some common spatial or geographic attribute. Data that contains geographic locations but which is not in a spatial data format is known as an "event table". *ArcView* supports x-y coordinate events (such as bus stop locations), point events (locations along a pre-defined route), linear events (such as pavement condition along a highway), and address events (such as survey response data)[1].

The current version of the TAD includes tabular data that is useful for sketch planning applications. Because the data was gathered from a variety of sources and originally intended for different purposes, some of the tabular databases have a stronger geographic link than others. The databases currently stored under C:\TAD_DATA are described below.

4.1 ABAG Data

The Association of Bay Area Governments (ABAG) produces tabulations and forecasts of demographic, employment, and land use data every two years. The TAD includes tables derived from ABAG'S Projections '94. Demographic, employment, and land use data are tabulated at the 1990 census tract level for San Francisco County and at the city and county level for the rest of the Bay Area. A description of the methodology used by ABAG for the projections can be found in Appendix B.

All ABAG data is stored under C:\TAD_DATA\ABAGDATA. Census tract level tables for San Francisco County are stored under C:\TAD_DATA\ABAGDATA\SFCOUNTY (these are listed in Table 4.1 and described in Table 4.2).

City and county level ABAG data for the Bay Area are stored under C:\TAD_DATA\ABAGDATA\BAYAREA. Data for Bay Area Primary Metropolitan

[1]Note that the appropriate spatial coverage must be created in order to add point and line event information.

Statistical Areas (PMSAs), counties, and cities is organized in separate files by year and by variable (see Tables 4.3 and 4.4). Note that for Bay Area ABAG files, the first four records hold data for PMSAs, the next nine records hold county totals, and the remaining records hold city level data. Subsets of these records may be extracted and saved as separate database files if desired.

4.2 Census Transportation Planning Package

The Census Transportation Planning Package (CTPP) is a set of tabulations of 1990 census data designed for transportation planning purposes, developed by the Bureau of the Census. Statewide and urban tabulation packages have been developed.

Statewide CTPP

The statewide tabulations, Parts A, B, and C, are available on CD-ROM from the Bureau of the Census along with software to aid in extracting data. A copy of the statewide tabulations for California has been acquired for the TAD and installed under C:\CTPP. The Statewide CTPP includes three parts:

Part A – Characteristics of persons, workers, and housing units by county and place of 2,500 or more of residence.

Part B – Characteristics of workers in counties and place of 2,500 or more (city, town, village, et.) of work.

Part C – Characteristics of workers in journey-to-work flows between counties and places of 2,500 or more of residence and work.

Part A of the statewide CTPP consists of 63 tables with a total of 2,451 data cells (columns). Part B consists of 27 tables with a total of 1,175 data cells. Part C consists of 7 tables with a total of 122 data cells. Each table and data cell is available at various geographic summary levels (county, place, etc.). Outlines of all CTPP tables may be found in Appendix 1[2] of the *CTPP Handbook*.

The simplest method for accessing the statewide tabulations is to use the *Transcue*[3] software to extract the desired tables and data cells at the desired geographic levels in dBASE or comma delimited format. The tables created in *Transcue* do not include geographic codes corresponding to those contained in the TIGER-based spatial coverages. Therefore,

---

[2]Federal Highway Administration, U.S. DOT. *CTPP Handbook: An Instructional Guide to the 1990 Census Transportation Planning Package*. February, 1995.

[3]This software was provided with the CTPP CD-ROM and is installed under C:\TAD\CTPP.

geographic codes will have to be entered by hand to link or join statewide CTPP data to Bay Area spatial coverages. Alternatively, statewide CTPP data may be linked or joined on geographic place names if the names are consistent with those used in the spatial coverages.

Urban CTPP

Urban CTPP data is available from MPOs. There are three parts:

Part 1 – Characteristics of persons, workers, and housing units by traffic analysis zone (TAZ) or census tract (Metropolitan Planning Organization option) of residence.

Part 2 – Characteristics of workers by TAZ or tract of work.

Part 3 – Characteristics of workers in journey-to-work flows from TAZ or tract to TAZ or tract.

The Metropolitan Transportation Commission (MTC) has provided a copy of selected tables from Part 3 of the Urban CTPP for the TAD. These include the commuters-by-mode and commute travel time matrices for MTC's 1099 TAZ system. There are also databases containing the number of workers at home in each TAZ. A list of file names, field names, and contents are shown in Table 4.5. Additional information on the data obtained from MTC can be found in Appendix C.

4.3 CMP Network Monitoring

CMP network monitoring data is collected by the Authority every two years. Currently, monitoring consists of LOS measurements on designated segments of the CMP roadway network made by floating car runs. CMP monitoring data for 1991 and 1993 has been acquired from the Department of Parking and Traffic and input into the TAD. The CMP monitoring data can be found in the files CMPAM.DBF and CMPPM.DBF under C:\TAD_DATA\MONITOR. Field names are shown in Table 4.6. The Authority will add 1995 CMP monitoring data and other measures of transportation network performance to the TAD as the data becomes available.

4.4 Muni Data

The TAD currently includes Muni's Section 15 Ridership data for the fiscal year 1993-94. This consists of a line-by-line reporting of average daily passengers and passenger miles for weekdays, Saturdays, and Sundays. Baseline ridership data is gathered every seven years. Point checks of average load factors by bus line are then used to update this information for Section 15 purposes. The Section 15 ridership data is found under

C:\TAD_DATA\TRANSIT\MUNI in files WKDY94.DBF (weekday statistics), SAT94.DBF (Saturday statistics), and SUN94.DBF (Sunday statistics). Field names and contents contained in these databases are listed in Table 4.7.

Descriptions of Muni routes, stored in text files, were also collected and stored under C:\TAD_DATA\TRANSIT\MUNI\ROUTES. These route descriptions can be useful when coding Muni route coverages.

4.5 MTC Regional Model Outputs

The Metropolitan Transportation Commission (MTC) maintains a system of regional transportation models for base and future years. The model system includes trip generation, distribution, and mode choice submodels; highway and transit trip tables; and highway and transit networks with daily and peak period traffic assignments. Until recently, the model system was maintained in a mainframe computer environment. MTC is currently in the process of converting the model system to the MINUTP transportation modeling software package, and estimating new models with results from the 1990 household travel survey. In addition, MTC has recently expanded their Traffic Analysis Zone (TAZ) system from 700 to 1099 zones.

The trip tables obtained from MTC for the TAD are an interim product generated for the 700 zone system (see Appendix D for detail on files received from MTC) for the base year 1990 and forecast years 2000 and 2010. These trip tables were disaggregated to the 1099 zone system with an equivalency file provided by MTC, converted from production-attraction format to origin destination format, and output to ASCII files. To make the resulting files more manageable, the trip table matrices were compressed as described below.

The MTC trip table files are found under C:\TAD_DATA\MTCTTABS. There are origin-destination person trip tables for the following modes and purposes:

- Home-based work drive alone;
- Home-based work shared ride (2 occupants);
- Home-based work shared ride (3+ occupants);
- Home-based work transit;
- Home-based shopping transit;
- Home-based shopping auto;
- Home-based social/recreational transit;
- Home-based social/recreational auto;
- Non-home-based transit; and
- Non-home-based auto.

Two versions of the trip tables for each year were created. The first is compressed to the superdistrict level (e.g., MTC1990A.DBF). The second compresses trip ends outside San Francisco County only to the superdistrict level only (e.g., MTC1990B.DBF). Tables 4.8 and 4.9 describe the contents of files and fields, respectively.

4.6 Citywide Travel Behavior Survey (CTBS)

Employment-based travel surveys were undertaken in 1992 and 1995 to satisfy the requirements of the Bay Area Air Quality Management District's Regulation 13 and for general planning purposes. Copies of the 1992 and 1995 survey data sets were obtained and incorporated into the TAD.

1992 CTBS

The 1992 data was obtained from the Planning Department. However, the data files were never successfully matched with the data dictionaries provided. The data files may be found under C:\TAD_DATA\CWTBS\1992. The database file CTBS_WRK.DBF contains employee survey response data and CTBS_EMP.DBF contains employer response data. Information on the 1992 CWTBS data files is located in Appendix E.

1995 CTBS

Data from the 1995 CTBS is contained in files under C:\TAD_DATA\CWTBS\1995. The survey response data is contained in CTBS_95.DBF. In addition to the data collected from the survey questionnaire, codes for the region of origin and the employer zipcode have been added (see Table 4.10). A summary database (EMP_ZIP.DBF) containing trips by mode and mode share by employer zipcode was also generated and added to the 1995 subdirectory. Additional detail on the 1995 survey and data will be contained in the forthcoming final survey report.

4.7 BART Passenger Profile Survey

The BART Passenger Profile Survey was a station-based general survey of BART patrons conducted in October 1992. The survey data set of 33,821 useable responses can be found under C:\TAD_DATA\TRANSIT\BART\PROF92_K.DBF. Data fields descriptions may are shown in Appendix F. Note that the origin and destination TAZs geocoded by BART are for MTC's 700 zone system. Also, note that the survey sample sizes and weights were designed to best reflect passenger characteristics at trip *origin* stations and not at destination stations or between station pairs. A summary report containing cross tabulations, a copy of the survey instrument, and the station codes may also be found in Appendix F.

4.8 Doyle Drive Intermodal Study Surveys

Survey data collected for the Doyle Drive Intermodal Study may be found under C:\TAD_DATA\DOYLE. The database file POSTCARD.DBF contains survey responses for the mailback postcard survey distributed at the toll plaza and through license plate recording. Data from the intercept survey of auto, bicycle, pedestrian, and transit users of the Presidio and Golden Gate Bridge is contained in the file INTRCEPT.DBF. A description of the database fields and value labels is found in Appendix G.

4.9 Census Summary Tape File 3

The Census Summary Tape File 3 (STF3) is a set of tabulations of 100 percent and sample Census data. The Census STF 3 data can be used to supplement the selected census data available through ABAG in its Projections series. STF3 includes a variety of tabulations of demographic, employment, and journey-to-work variables. Levels of geographic detail range from the county to the census block group.

A copy of the California STF3 data on CD ROM has been acquired for use as part of the TAD. The simplest means of accessing the data and extracting selected tables is to use the software present on the CD ROM. Either type "GO" at the >E prompt or run the GO.BAT file from the File Manager window. Alternatively, since the data files are in .dbf format, they may be accessed, queried, and copied using database software[1]. Appendix H contains additional information on the STF3 data including a list of tables, table outlines, summary level sequence chart, and CD ROM technical information.

[1]The data files may be viewed from ArcView but this is not recommended due to their size

Table 4.1 San Francisco County ABAG Data Files

File Name	Contents
agesf20.dbf	Population projections broken down by age groups for the year 2000
agesf80.dbf	" (year 1980)
agesf90.dbf	" (year 1990)
agesf95.dbf	" (year 1995)
SF80.dbf	Population, employment, land use, and income data for 1980
SF90.dbf	" for 1990
SF95.dbf	" for 1995
SF20.dbf	" for 2000
SF05.dbf	" for 2005
SF10.dbf	" for 2010
sfland.dbf	Existing and potential land use acres.

Table 4.2 San Francisco ABAG Data File Contents

File	Field	Contents
sfxx.dbf	County	County Number 1 - Alameda 2 - Contra Costa 3 - Marin 4 - Napa 5 - San Francisco 6 - San Mateo 7 - Santa Clara 8 - Solano 9 - Sonoma
	Ct90	1990 Census Tract Number
	Agri	Jobs in Agriculture, Forestry and Mining
	Manu	Jobs in Manufacturing
	Wsale	Jobs in Wholesale Trade
	Rtrade	Jobs in Retail Trade
	Serv	Jobs in Services
	Other	Jobs in Others
	Tjob	Total Jobs
	Dev_Ind	Developed Industrial and Commercial Acres
	Dev_res	Developed Residential Acres
	Tt_acre	Total Acres in Tract
	Hh_num	Household Number
	Hh_pop	Household Population
	Emp_res	Employed Residents
	Mhh_inc	Mean Household Income
sfland.dbf	County	County Number
	Ct90	1990 Census Tract Number
	Res_acre	1985 - 1995 Residential Available Acres
	Com_acre	1985 - 1995 Commercial and Industrial Available Acres
	Pot_unit	1985 - 1995 Potential Units
	Presacre	Post 1995 Residential Available Acres
	Pcomacre	Post 1995 Commercial and Industrial Available Acres
	Ppotunit	Post 1995 Potential Units
	Availrev	Available Redevelopment Acres
	Unavailu	Unavailable Acres
agesfxx.dbf	Year	Year
	County	County Number
	Ct90	Census Tract Number
	Pop_0-4	Population in Age 0 - 4
	Pop_5-19	Population in Age 5 - 19
	Pop_20-44	Population in Age 20 - 44
	Pop_45-65	Population in Age 45 - 65
	Pop_65up	Population in Age 65 +
	Tpop	Total Population

Note: "xx" denotes the year.

Table 4.3 Bay Area ABAG Data Files

File Name	Contents
y1980.dbf	1980 data by city and county
y1990.dbf	1990 data by city and county
y1995.dbf	1995 data by city and county
y2000.dbf	2000 data by city and county
y2005.dbf	2000 data by city and county
y2010.dbf	2010 data by city and county
POP.dbf	Total population data by year and place
HHLDS.dbf	Number of households by year and place
HHPOP.dbf	Household population by year and place
HHSIZE.dbf	Persons per household by year and place
EMPRES.dbf	Employed residents by year and place
JOBS.dbf	Total jobs by year and place
AGRI.dbf	Agricultural jobs by year and place
MANUF.dbf	Manufacturing jobs by year and place
RETAIL.dbf	Retail jobs by year and place
SERVICE.dbf	Service jobs by year and place
OTHER.dbf	Other jobs by year and place
meaninc.dbf	Mean Household income by year and place

Table 4.4 Bay Area ABAG Data File Contents

File Name	Field Name	Contents
yxxxx.dbf	Totpopxx	Total population for city, county or area
	Hhldsxx	Number of households
	Hhsizexx	Household size
	Empresxx	Employed residents
	Jobsxx	Total jobs
	Agrixx	Agricultural jobs
	Retailxx	Retail jobs
	Servicesxx	Service jobs
	Otherxx	Other jobs
	Meanincxx	Mean income

Note: xxxx and xx denote the year (1980, 1990, 1995, 2000, 2005, and 2010).

Table 4.5 Contents of Urban CTPP Databases

File Name	Field Name	Contents
ctppcmt.dbf	res1099	1099 zone of residence
	work1099	1099 zone of work
	ttcom	Total commuters
	drv_alone	Drive alone commuters
	sr_2com	Share ride 2 commuters
	sr_3com	Share ride 3+ commuters
	tr_com	Transit commuters
	wlk_com	Walk commuters
	bik_com	Bicycle commuters
	oth_com	Other means of transportation commuters
	veh_com	Vehicle driver commuters
ctpptime.dbf	res1099	1099 zone of residence
	work1099	1099 zone of work
	ttim_nhb	Travel time, non-home total commuters (xx.x minutes)
	drva_tim	Travel time, drive alone commuters
	sr2_tim	Travel time, share ride 2 commuters
	sr3_tim	Travel time, share ride 3+ commuters
	tr_tim	Travel time, transit commuters
	wlk_tim	Travel time, walk commuters
	bik_tim	Travel time, bicycle commuters
	oth_tim	Travel time, other means of transportation commuters
athomer.dbf	mtc_taz	Regional TAZ (1099 system)
	wrk_hm90	1990 Census workers working at home
ctpp90at.dbf	ctaz	Census TAZ
	rtaz	Regional TAZ (1099 system)
	mtc_code	MTC County Code
	wrk_home	1990 Census workers working at home

Note: Travel times have one implied decimal. (e. g., 120 = twelve minutes)

Table 4.6 CMP Monitoring Databases

File Name	Contents
main_st	CMP roadway facility name
o_st	Cross street at beginning of segment
d_st	Cross street at end of segment
class	*Highway Capacity Manual* classification
dir	Direction of travel (north, south, east, west)
length	Length of monitoring segment
avg_spd91	Average speed measured in 1991
los91	1991 Level of Service
avg_spd93	Average speed measured in 1993
los93	1993 Level of Service

Note: These fields are found in C:\TAD_DATA\MONITOR\CMPAM.DBF and CMPPM.DBF. These files currently cannot be directly linked to the CMP shapefile. A common field needs to be added to do this.

Table 4.7 Muni Section 15 Database Description

File Name	Contents
line	Transit route line number
mode	mode: TC = trolley coach; MC = motor coach; CC = cable car; SC = Metro.
route type	Description of service type (radial, owl service, etc.)
check date	Data collection date
data	"•" indicates that monitoring data was collected; "•" indicates that baseline data was collected
ave_daily	Average daily passengers
pax_miles	Passenger miles

Table 4.5 MTC Model Output (Trip Table) Databases

File Name	Contents
mtc1990a.dbf	1990 superdistrict-superdistrict trip table
mtc1990b.dbf	1990 partially-compressed trip table
mtc20100a.dbf	2010 superdistrict-superdistrict trip table
mtc2010b.dbf	2010 partially-compressed trip table
mtc2000a.dbf	2000 superdistrict-superdistrict trip table
mtc2000b.dbf	2000 partially-compressed trip table

Table 4.9 MTC Trip Table Fields

Field Name	Contents
ozone	taz or superdistrict of origin (see Appendix 4)
dzone	taz or superdistrict of destination (see Appendix 4)
	average daily trips by mode:
hbwtr90	– home-based work drive alone
hbwda90	– home-based work shared ride (2 occupants)
hbwh290	– home-based work shared ride (3+ occupants);
hbwh390	– home-based work transit;
hbshtr90	– home-based shopping transit;
hbshda90	– home-based shopping auto;
hbsrtr90	– home-based social/recreational transit;
hbsrda90	– home-based social/recreational auto;
nhbtr90	– non-home-based transit; and
nhbda90	– non-home-based auto.

Note: The codes in fields ozone and dzone correspond to superdistricts for the superdistrict level trip tables (MTCXXXXA.DBF). In the "partially compressed" trip tables, the codes correspond to TAZs up to 127. Code 128 corresponds to Superdistrict 35, code 129 to Superdistrict 36, and so forth. See Appendix D for a full equivalency table.

Table 4.10 1995 Citywide Travel Behavior Survey Database

Field Name	Contents
id	Survey response identification code
emp_no	Employer number code
emp_zip	Employer zip code
emp_sd	Employer superdistrict
county	County of residence
zip_code	Zip code of residence
x	Indicates whether foreign language questionnaire was used (1 = yes)
zone	Survey zone (1= downtown; 2 = other)
sd_region	superdistrict/geographic region (1 = Superdistrict 1; 2 = Superdistrict 2; 3 = Superdistrict 3; 4 = Superdistrict 4; 5 = East Bay; 6 = North Bay; 7 = South Bay)

Note: All field names not explicitly mentioned in this table correspond to the numbering and order of the survey questionnaire and should be self-explanatory.

5.0 Overview of ArcView and Projects

5.0 Overview of ArcView and Projects

This section provides a brief description of how *ArcView* combines spatial and tabular data into projects and lists some spatial analysis and relational database capabilities.

5.1 *ArcView* Projects

The user works with spatial and tabular data in *ArcView* through projects. *ArcView* project filenames will have an extension of *.APR. Project components include views, tables, layouts, charts, and scripts.

- Views contain references to spatial data such as zip code or TAZ coverages.
- Tables contain references to tabular data sources such as survey or census data as well as the attribute tables of spatial coverages.
- Layouts are maps that can contain views, charts, legends, text, and other elements.
- Charts are created from tabular data.
- Scripts are programs written in the *Avenue* language.

The separate project files allow the same data to be viewed and used in different ways by one or more users. The project files do not include copies of the actual data files. Instead, project files contain references or pointers to all the included data files along with things like layouts and legends. For example, separate projects can be created for CMP monitoring and for different Strategic Analysis Reports (SARS).

> *When working with ArcView projects, remember edits to spatial or tabular data made in one project will be reflected in all projects that reference those data sources.*

5.2 Spatial Analysis and Database Capabilities

This section describes basic spatial analysis and database capabilities of the TAD. For further information and instruction, refer to the *ArcView* user's guide, on-line help system, or on-line tutorial.

Database Capabilities (Partial List)

Working with tabular data in the TAD the user can perform the following in *ArcView*:

- Query tabular data using a range of numeric, string, and logic operators;
- Create summary tables;
- Chart the data;
- Edit individual records or calculate field values; and
- Link (one-to-many relationship) or join (one-to-one relationship) tables based on a common field.

Spatial Analysis Capabilities (Partial List)

Working with spatial coverages in the TAD the user can:

- Join or link attribute tables to tabular data sources;
- Query data contained in the attribute or joined tables;
- Select features and associated data of a spatial coverage that intersect, lie within, are within a certain distance of, have their center in, or completely contain selected features of another spatial coverage (for example, all bus stop locations within a certain TAZ);
- Map attribute table data or linked data; and
- Measure distances on maps.

APPENDIX X

Glossary of CMP Related Terms

THIS PAGE
INTENTIONALLY LEFT BLANK

GLOSSARY OF CMP RELATED TERMS

Association of Bay Area Governments - (ABAG)	The regional agency that is responsible for regional planning other than for transportation. ABAG publishes forecasts of projected growth for the region.
Air Quality Attainment Plan	The plan for attainment of state air quality standards, as required by the California Clean Air Act of 1988. It is adopted by air quality districts and subject to approval by the State Air Resources Board.
Average Daily Traffic (ADT)	The average number of vehicles passing a specified point during a 24 hour period.
Bay Area Air Quality Management District - (BAAQMD)	The regional agency which adopts and enforces regulations to achieve and maintain state and federal air quality standards in the nine county Bay Area.
California State Department of Transportation (Caltrans)	Responsible, as the Department owner/operator of the state highway system for its safe proposed operation and maintenance. Proposes projects for Intercity Rail, Interregional Roads, and sound walls in the PSTIP. Also responsible for the HSOPP, Toll Bridge, and Aeronautics programs. The TSM and State/Local Partnership Programs are administered by Caltrans. Caltrans is the implementing agency for most state highway projects, regardless of program, and for the Intercity Rail Program.

Capital Improvement Program (CIP)	As used in this document: A seven year program of projects to maintain or improve the traffic level of service and transit performance standards developed by the CMP.
Capital Priorites	A process used by MTC to evaluate and prioritize transit projects in the region. All sources of transit funding, including UMTA grants, state programs, and other sources are considered. This process involves all of the transit operators in the region, including bus, rail, and ferries.
Congestion Management Agency (CMA)	The agency responsible for developing the Congestion Management Program and coordinating and monitoring its implementation.
Congestion Management Program (CMP)	A Legislatively required county-wide program which addresses congestion problems.
Flexible Congestion Relief (FCR)	One of the state funding programs for local or regional transportation projects that will reduce congestion. State highway projects, local roads, and rail guideway projects are all eligible for FCR funds.
Highway System Operation Protection Plan - (HSOPP)	A program created by state and legislation that includes projects related to state highway safety and rehabilitation, seismic safety, and traffic operational improvements. HSOPP is a four year program of projects adopted separately from the STIP.

Level of Service - (LOS)	A qualitative measure describing operational conditions within a traffic stream; generally described in terms of such factors as speed and travel time. Expressed in range of A through F, with F being the worst.
Model	A mathematical description of a real-life situation that uses data on past and present conditions to make a projection about the future.
Model - Land Use	A model used to predict the future spatial allocation of urban activities (land use), given total regional growth, the future transportation system, and other factors.
Model - Traffic	A mathematical equation or graphic technique used to simulate and predicts traffic movements, particularly those in urban areas or on a freeway.
Peak - (Peak Period, Rush Hours)	1. The period during which the maximum amount of travel occurs. It may be specified as the morning (a.m.) or afternoon or evening (p.m.) peak. 2. The period when demand for transportation service is the heaviest.

Principal Arterial	A functional classification system which defines a street or roadway in terms of the nature and composition of travel. Principal arterials derive their importance from service to rural oriented traffic, but equally or even more importantly, from service for major movements within the urbanized area. The principal arterial system carries the major portion of trips entering and leaving the urban area, as well as the majority of through movements desiring to bypass the central city. The US Department of Transportation provides the guidance that 40-65% of the VMT should be accounted for on the principal arterial system.
Proposed State Transportation Improvement Program - (PSTIP)	This seven year program is based on the adopted STIP and the most recent Project Delivery Report. It is developed by Caltrans for CTC approval and includes projects developed through the IRRS, Intercity Rail, Sound Wall, Toll Bridge, and Aeronautics programs.
Proposition 116	Passed by the voters in June of 1990, this initiative sponsored by the Planning and Conservation League provides $1.9B in rail bonds, primarily to projects specified in the legislation.

Regional Transportation Improvement Program - (RTIP)	A list of proposed transportation projects submitted to the CTC by the regional transportation planning agency, as a request for state funding through the FCR and Urban and Commuter Rail Programs. The individual projects are first proposed by local jurisdictions (CMAs in urbanized counties), then evaluated and prioritized by the MTC for submission to the CTC. The RTIP has a seven year planning horizon, and is updated every two years.
Regional Transportation Plan - (RTP)	A comprehensive 20 year plan for the region, updated every two years by the regional transportation planning agency. The RTP includes goals, objectives, and policies, and reccmmends specific transportation improvements.
Regional Transportation Planning Agency - (RTPA)	The agency responsible for the preparation of RTPs and RTIPs and designated by the State Business Transportation and Housing Agency to allocate transit funds. RTPAs can be local transportation commissions, council of governments, metropolitan planning organizations, or statutorily created agencies. MTC is the RTPA for the nine county Bay Area.
Short Range Transit Plan (SRTP)	A five year comprehensive plan required by UMTA for all transit operators receiving federal funds. The plans establish the operator's goals, policies, objectives; analyzes current and past performance, and describes short term operational and capital improvement plans.

State Implementicn Plan - (SIP)	State plan required by the Federal Clean Air Act of 1990 to attain and maintain national ambient air quality standards. It is adopted by local air quality districts and the State Air Resources Board.
Transportation Control Measure - (TCM)	A measure intended to reduce pollutant emissions from motor vehicles. Examples of TCMs include programs to encourage ridesharing or public transit usage, city or county trip reduction ordinances, and the use of cleaner burning fuels in motor vehicles.
Transportation Demand Management - (TDM)	Demand based techniques for reducing traffic congestion, such as ridesharing programs and flexible work schedules enabling employees to commute to and from work outside of peak hours.
Transportation System Management - (TSM)	That part of the urban transportation planning process undertaken to improve the efficiency of the existing transportation system. The intent is to make better use of the existing transportation improvements that generally cost less and can be implemented more quickly than major capital improvements.
U/C Rail - Urban and Commuter Rail	A state funding program financed by the sales of bonds authorized by Proposition 108. Two additional bond measures to fund this program will be placed in front of the voters in 1992 and 1994. All projects must be matched 50% by local funds. Projects are proposed through the CMP process to regional agencies, which then may include them in their RTIPs.

Urbanized Area	As defined by the Bureau of the Census, a population concentration of at least 50,000 inhabitants, generally consisting of a central city and the surrounding, closely settled, contiguous territory (suburbs). The boundary is based primarily on a population density of 1000 people/mile but also includes some less densely settled areas, as well as such areas as industrial parks and railroad yards, if they are within areas of dense urban development. The boundaries of urbanized areas, the specific criteria used to determine urbanized areas, or both may change in subsequent censuses.
Vehicle Miles of Travel - (VMT)	1. On highways, a measurement of the total miles traveled in all vehicles in the area for a specified time period. It is calculated by the number of vehicles multipled by the miles traveled in a given area or on a given highway during the time period. 2. In transit, the number of vehicle miles operated on a given route or line or network during a specified time period.
Vehicle Occupancy	The number of people aboard a vehicle at a given time; also known as auto or automobile occupancy when the reference is to automobile travel only.
Vehicle Trip	A one-way movement of a vehicle between two points.

Transportation Level of Service Definitions,

Level of Service	Description	Volume/Capacity V/C Ratio
A	Level of Service A describes a condition where the approach to an intersection appears quite open and turning movements are made easily. Little or no delay is experienced. No vehicles wait longer than one red traffic signal indication. The traffic operation can generally be described as excellent.	0 - 0.60
B	Level of Service B describes a condition where the approach to an intersection is occasionally fully utilized and some delays may be encountered. Many drivers begin to feel somewhat restricted within groups of vehicles. The traffic operation can be generally described as very good.	0.61 - 0.70
C	Level of Service C describes a condition where the approach to an intersection if often fully utilized and back-ups may occur behind turning vehicles. Most drivers feel somewhat restricted, but not objectionably so. The driver occasionally may have to wait more than one red traffic signal indication. The traffic operation can generally be described as good.	0.71 - 0.80
D	Level of Service D describes a condition of increasing restriction causing substantial delays and queues of vehicles on approaches to the intersection during short times within the peak period. However, there are enough signal cycles with lower demand such that queues are periodically cleared, thus preventing excessive back-ups. The traffic operations can generally be described as fair.	0.81 - 0.90
E	Capacity occurs at Level of Service E. It represents the most number of vehicles that any particular intersection can accommodate. At capacity there may be long queues of vehicles waiting up-stream of the intersection and vehicles may be delayed up to several signal cycles.	0.91 - 1.00
F	Level of Service F represents a jammed condition. Back-ups from locations downstream or on the cross street may restrict or prevent movement of vehicles out of the approach under consideration. Hence, volumes of vehicles passing through the intersection vary from signal cycle to signal cycle. Because of the jammed condition, this volume would be less than capacity.	1.01-

Source: Highway Research Board, Highway Capacity Manual, 1965 and

THIS PAGE
INTENTIONALLY LEFT BLANK

THIS PAGE
INTENTIONALLY LEFT BLANK